



AVIAN
KNOWLEDGE NETWORK

DoD AND THE AKN: WHO, WHAT, WHERE, WHEN, WHY, AND HOW

DoD AKN Virtual Training (NMFWA Makeup)
20 and 22 May 2025
Virtual

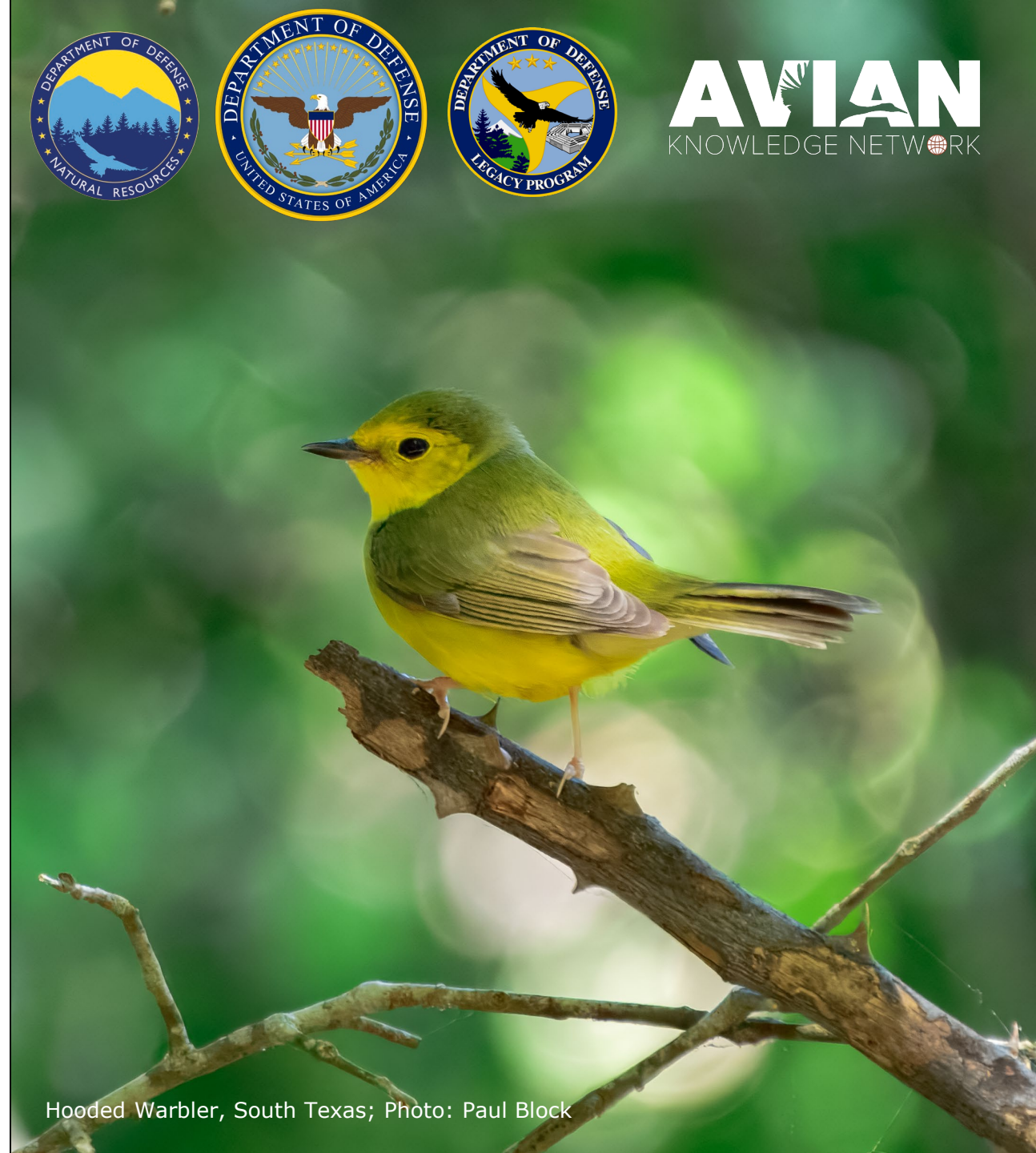
Sam Veloz
Dianne Miller

Elizabeth Neipert
Zoe Duran

John Alexander
Caitlyn Gillespie



DoD AKN Training – 20 & 22 May 2025, Virtual (2025 NMFWA Makeup)



Hooded Warbler, South Texas; Photo: Paul Block



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pointblue.github.io/dod_workshop

Hooded Warbler, South Texas; Photo: Paul Block



WELCOME, INTRODUCTIONS, AND LOGISTICS



Who are **we**?

Who are **you**? (we'll call on you)

- Name, Installation, Position
- Have you collected avian data yourself before?
- What type of avian data you collect?
- How would you like to use AKN?

INTRODUCTIONS



A FEW LOGISTICS...

- The Agenda with links (bookmark this): **pointblue.github.io/dod_workshop**
- Session: interactive & casual
- Office hours: 16 hours monthly, sign up here



<https://www.dodakn.org/office-hours-booking-page/>



DoD Participation in the Avian Knowledge Network (AKN): the Who, What, Where, When, Why, and How
DoD AKN Regional Training, February 11-13, 2025, Robins Air Force Base, Georgia

Resources: [Agenda](#) [Tools](#) [Slides](#) [Exercises](#) [About Us](#) [Archive](#)

Agenda
All times Eastern Standard Time (EST)

Tuesday, February 11
All times Eastern Standard Time (EST)

0800 (45 min) — Welcome, Introductions, and the Avian Data Lifecycle
Welcome to the DoD / AKN workshop on using the AKN technologies for managing and utilizing avian data in the AKN.

- Welcome and introductions
- Review the workshop agenda
- Logistics and facilities
- What to do if you encounter technical problems
- The Avian Data Lifecycle

0845 (20 min) — AKN Project Data 101
We will cover how the AKN represents observational data and how to find the best way to organize and curate your data in a project database.

- How the AKN organizes data
- What is a Program?
- What is a Project Database?

0905 (5 min) — Stretch Break

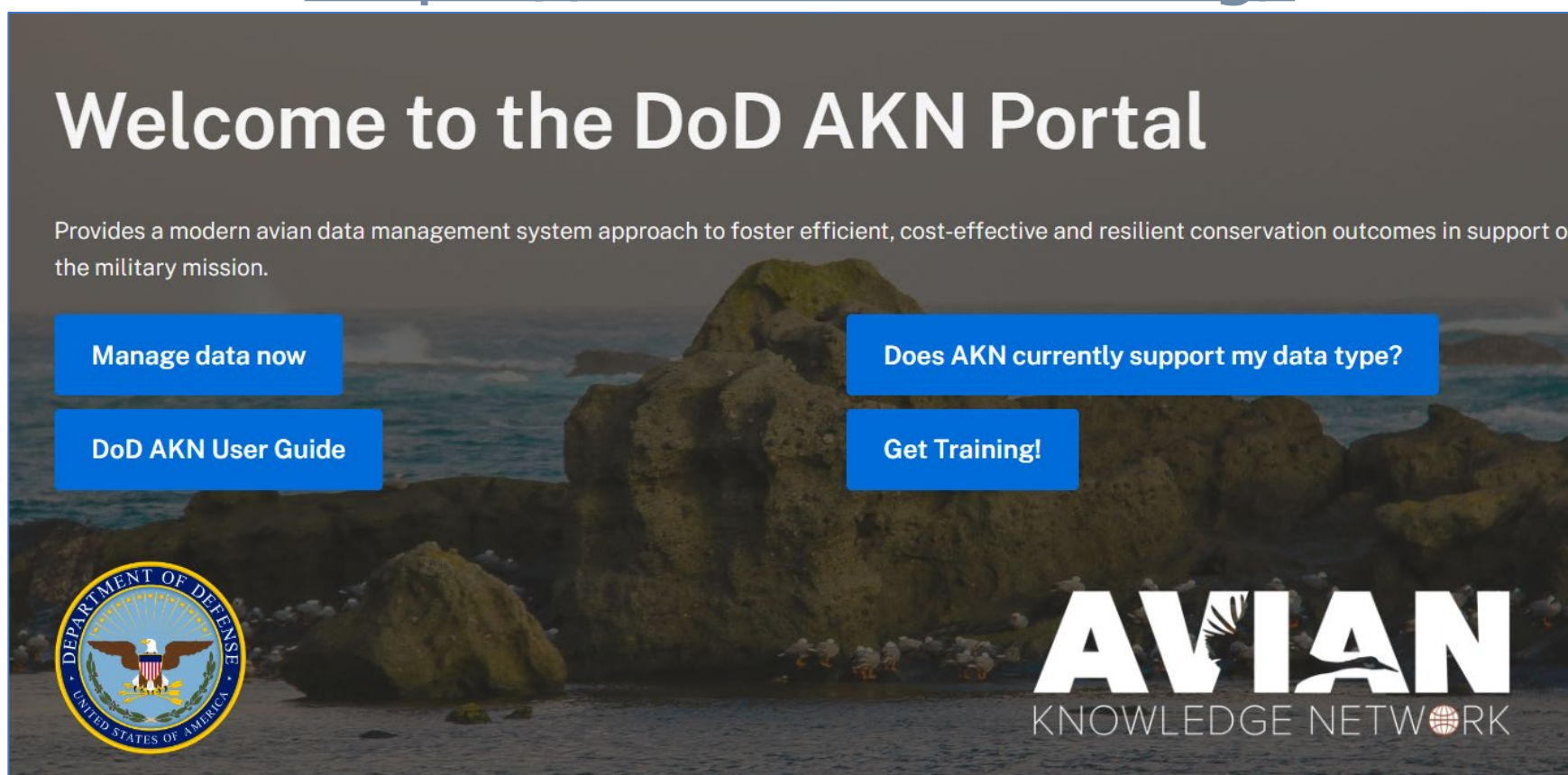
0910 (50 min) — Managing Project Metadata - Protocols and Sampling Units

- Parking lot items



DoD AKN PORTAL

<https://www.dodakn.org/>

The landing page for the DoD AKN Portal features a background image of a rocky coastline with waves. The main heading "Welcome to the DoD AKN Portal" is in large white text. Below it, a paragraph states: "Provides a modern avian data management system approach to foster efficient, cost-effective and resilient conservation outcomes in support of the military mission." There are four blue buttons with white text: "Manage data now", "Does AKN currently support my data type?", "DoD AKN User Guide", and "Get Training!". In the bottom left corner is the Department of Defense seal, and in the bottom right corner is the "AVIAN KNOWLEDGE NETWORK" logo.



DoD MANDATE MEMO





OFFICE OF THE ASSISTANT SECRETARY OF DEFENSE
3400 DEFENSE PENTAGON
WASHINGTON, DC 20301-3400

ENERGY, INSTALLATIONS,
AND ENVIRONMENT

MEMORANDUM FOR DEPUTY ASSISTANT SECRETARY OF THE ARMY
(ENVIRONMENT, SAFETY AND OCCUPATIONAL HEALTH)
DEPUTY ASSISTANT SECRETARY OF THE NAVY
(ENVIRONMENT AND MISSION READINESS)
DEPUTY ASSISTANT SECRETARY OF THE AIR FORCE
(ENVIRONMENT, SAFETY AND INFRASTRUCTURE)

SUBJECT: Department of Defense Avian Knowledge Network Program

The Department of Defense (DoD), like other federal agencies, has significant regulatory, management, and stewardship responsibilities related to migratory birds. These requirements are driven primarily by the Migratory Bird Treaty Act (MBTA), the "Military Readiness Rule" (50 CFR § 21.15, Authorization of take incidental to military readiness activities) and Executive Order (EO) 13186 "Responsibilities of Federal Agencies to Protect Migratory Birds." In accordance with EO 13186, DoD has also established a Memorandum of Understanding with the U.S. Fish and Wildlife Service outlining the management and stewardship activities DoD will implement for migratory bird conservation. All DoD natural resources conservation programs support DoD access to its land, air, and water resources for realistic military training and testing and to sustain the long-term ecological integrity of the resource base and the ecosystem services it provides, in accordance with the Sikes Act. Collecting data and information from ongoing surveys, inventories, and monitoring are essential to make informed management decisions, efficiently and effectively meet regulatory requirements (e.g., the MBTA, the Sikes Act), conduct environmental analyses, and support planning to adaptively manage migratory bird populations in the context of mission activities. As such, the DoD spends millions of dollars annually to collect these data.

However, even with the collection of large amounts of data, DoD faces significant challenges to fully utilize and optimize our avian data. These challenges include: (1) inefficient access to data for regulatory requirements, environmental analyses, and planning; (2) a lack of visibility on avian species population trends and management across the Military Services and broader landscapes; and (3) a lack of a centralized, secure data repository resulting in data loss during personnel turnover.

To address these challenges, DoD began partnering with other federal agencies (i.e., U.S. Fish and Wildlife Service, Bureau of Land Management, U.S. Forest Service) in the development of the Avian Knowledge Network (AKN) in 2016. The AKN is a national clearinghouse for avian data and decision support tool for assessing bird population health, status and trends, specific stressors, and conservation measures. The AKN connects partner datasets, includes metadata and data assumptions, contains powerful data analysis tools, and is a permanent archive of all data records.

This office fully endorses the use of AKN and requests that each DoD Component utilize AKN to the maximum extent practicable and provide staff the support needed to make AKN the best tool for DoD. A coordinated and comprehensive approach to implement DoD's participation in the AKN will directly support the military mission and improve the quality and effectiveness of bird conservation on DoD installations. For DoD to fully employ the power of AKN, user training and significant initial data management is required. This office, through the DoD Legacy Resource Management Program, is committed to providing baseline support and resources to help implement AKN. This support will provide training and education for personnel, and technical assistance related to system use and data management. The DoD AKN Director is Ms. Elizabeth Neipert, at elizabeth.s.neipert@erdc.dren.mil or 907-201-6244.

Additionally, a national Cooperative Agreement has been established to support AKN implementation. It provides a streamlined process for DoD Components and installations to contribute additional resources to meet their unique needs.

The point of contact for this office is Ms. Liz Galli-Noble, DoD Senior Natural Resources Program Manager and Legacy Resource Management Program Manager, elizabeth.j.galli-noble.civ@mail.mil or 406-581-8148

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KID RICHARD GOODWIN IV
DN: cn=KID RICHARD GOODWIN IV, o=DoD
Date: 2022.08.24 11:39:54 -0400

Richard G. Kidd IV
Deputy Assistant Secretary of Defense
(Environment and Energy Resilience)

2



DoD & AKN

WHY?

DOD DATA ISSUES

- (1) Inefficient access to data for regulatory requirements, environmental analyses, and planning
- (2) Lack of visibility on avian species population trends and management across the Military Services and broader landscapes
- (3) Lack of a centralized, secure data repository resulting data loss during personnel turnover



● Army
● Air Force
● Marine Corps
● Navy
● DLA

HAWAII

PUERTO RICO



**DoD
&
AKN**

WHY?

AKN DATA SOLUTIONS

- (1) Allowing efficient access to data for regulatory requirements, environmental analyses, and planning
- (2) Creating visibility on avian species population trends and management across the Services and broader landscapes and
- (3) Offering secure, centralized data repository and archive



• Army • Navy
• Air Force • DLA
• Marine Corps

HAWAII

PUERTO RICO

WAKE IS.

GUAM



LEGAL DRIVERS

- Migratory Bird Treaty Act (PL 65-186; 16 USC 703 *et seq.*)
- Sikes Act (PL 105-85, as amended through 2004 including PL 108-136; 16 USC 670 *et seq.*)
- Executive Order 13186 *Responsibilities of Federal Agencies to Protect Migratory Birds*
- National Environmental Policy Act, as amended. (PL. 91-190, 42 U.S.C. 4321-4347, as amended by Pub. L. 94-52)
- Endangered Species Act (16 U.S.C. 1531-1544, 87 Stat. 884), as amended – PL. 93-205
- DoD Instruction 4715.03, *Natural Resources Conservation Program*
 - Prioritize species
 - Facilitate and encourage collaboration with partners
 - Focus research and planning efforts
 - Increase information sharing



DOD AKN STRATEGIC APPROACH

- DoD AKN Program Management Plan
- OSD and Military Services Support
- Status of DoD Data
- Data Initiatives
- DoD-Specific and AKN Tools
- Priority Tasks for FY25



DoD AKN Program

Task Categories



Ongoing Base Support

Ex. project coordination, customer data support, back-end technical support



Training

Ex. quarterly regional, service-specific, NMFWA, training videos



DoD-Specific Requirements

Ex. user guides, DoD AKN Portal, data visualization and query tools



Data Initiatives

Ex. new data type incorporation, integration with partner data, data standardization



AKN Tools (Partner Initiatives)

Ex. new AKN roles, advanced analysis and query functionality, cohesive U.I., Program Enterprise



Driving Avian Data Questions

1. What species have confirmed occurrence on my installation?
2. What species have the potential to occur on my installation?
3. What species may occur/persist on my installation in the future?
4. How are species “doing” (population metrics) on my installation? (AKA "Is my INRMP effective?")
How are species doing across the military? (AKA "Is the DoD conservation program effective?")
5. What is driving population trends on my installation? Are there conservation measures/actions within my INRMP that are working more than others to reach identified conservation objectives?
6. What is the relative conservation responsibility of avian species on military installations?

DOD MISSION BENEFITS

- Secure database to input/upload, curate, and manage DoD field data
- Empowers historical data
- Assess status of birds on/near installations
- Monitor trends at multiple scales
- Data sharing and integration with partners
- Advanced data analysis and visualization tools
- Access to data that contributes to more technically and scientifically sound INRMPs, NEPA environmental reviews, and ESA Section 7 Consultation
- Contributes directly to proactive conservation, monitoring and management of priority bird species



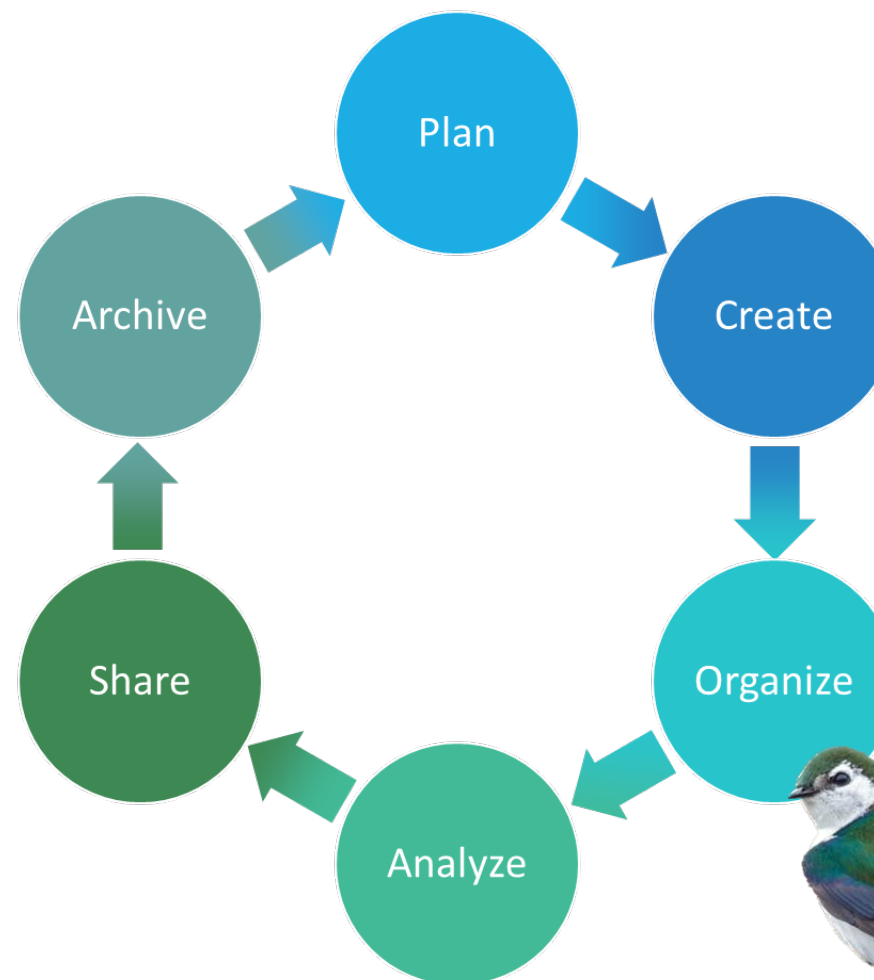
Enabling the Mission, Defending the Resources



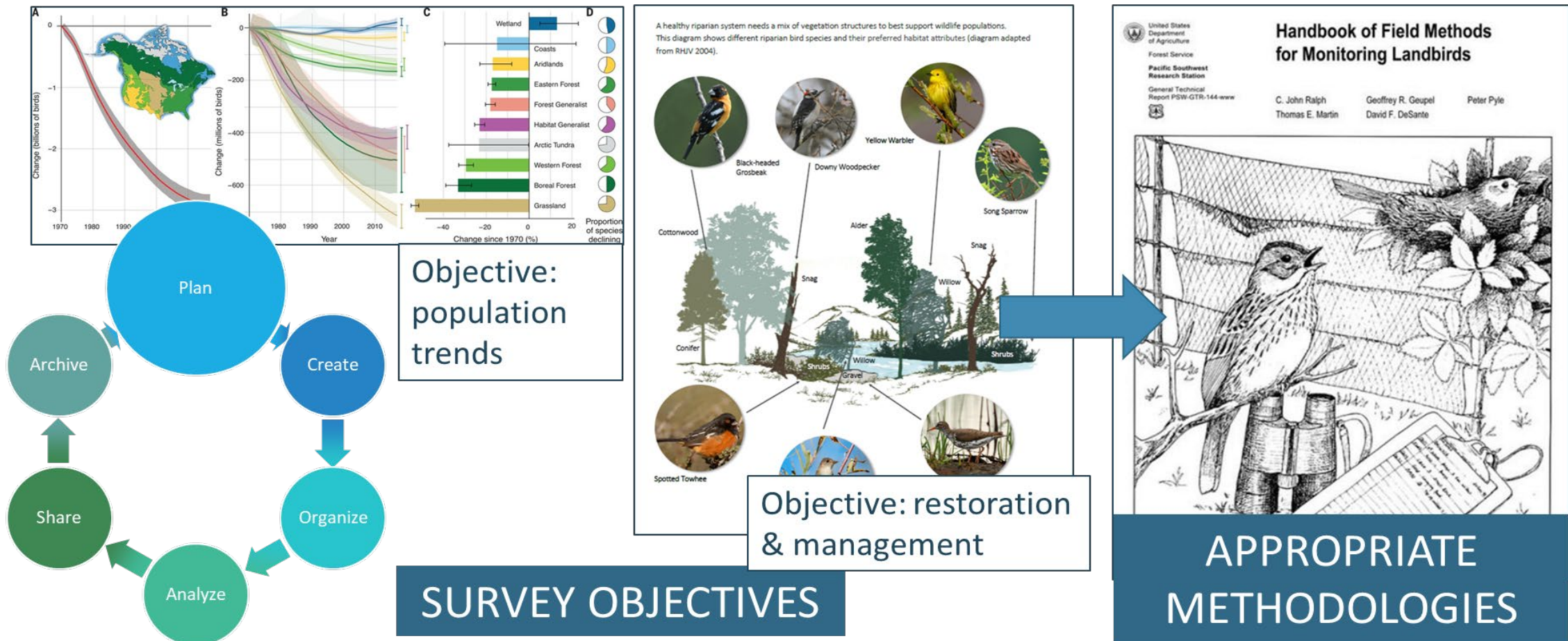
FULL AVIAN DATA LIFE CYCLE



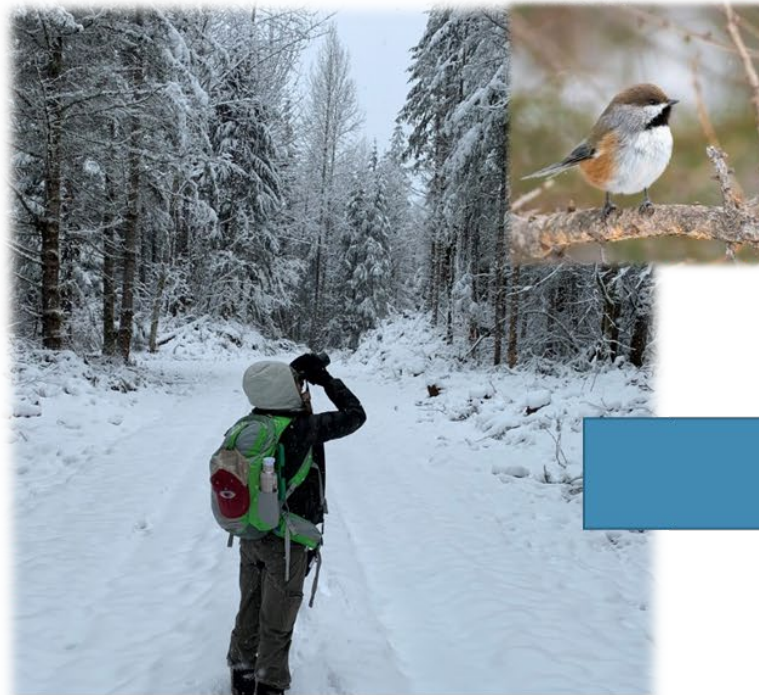
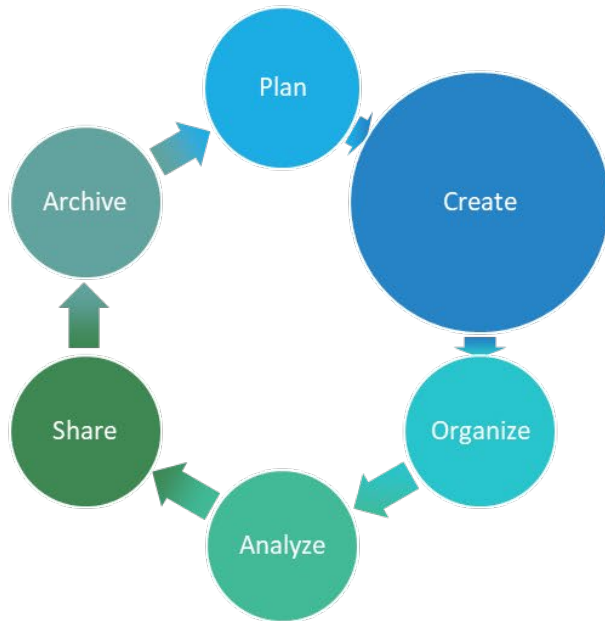
FULL AVIAN DATA LIFE CYCLE



FULL AVIAN DATA LIFE CYCLE



FULL AVIAN DATA LIFE CYCLE



FIELD SAMPLING-OBSERVATIONS

[illegible]

FIELD FORM-DATA



FULL AVIAN DATA LIFE CYCLE



Observations

Species observations with details, layout and titles dependent on protocol.

[Quick Tips >>](#)

- ☐ Separate observations on individual rows
- ☐ Scroll observations (not compatible with all browsers)

Observation Protocol: [VCP100Sx](#)
 Total Birds Counted: 7

DATA ENTRY
QA/QC

[Download CSV](#)

Point ⓘ	Time ⓘ	Species ⓘ	Time Bin ⓘ	Count ⓘ	Detection ⓘ	Distance ⓘ	AnimalSex ⓘ	Notes	
DI-10A	07:21	RWBL	1	1	S	52	Male		✖
DI-10A	07:21	RWBL	1	1	V	52	Male		✖
DI-10A	07:22	TUVU	2	1	V	FLO			✖
DI-10A	07:24	LASP	4	1	V	26			✖
DI-10A	07:24	LASP	4	1	V	94			✖
DI-10A	07:25	LASP	5	1	C	53			✖



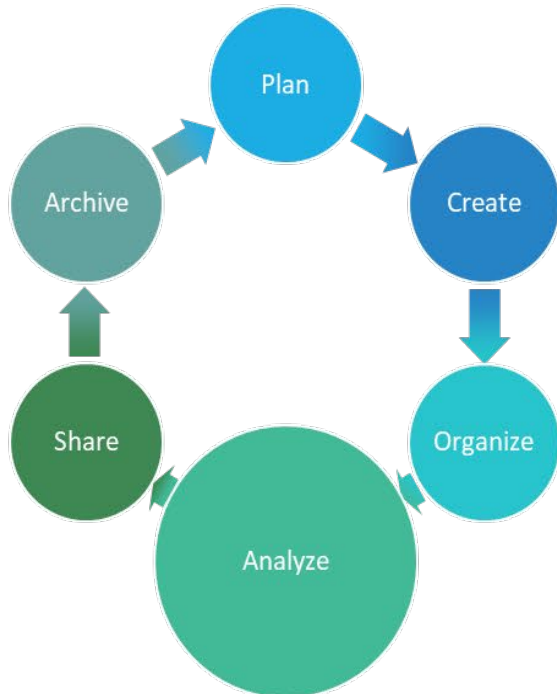
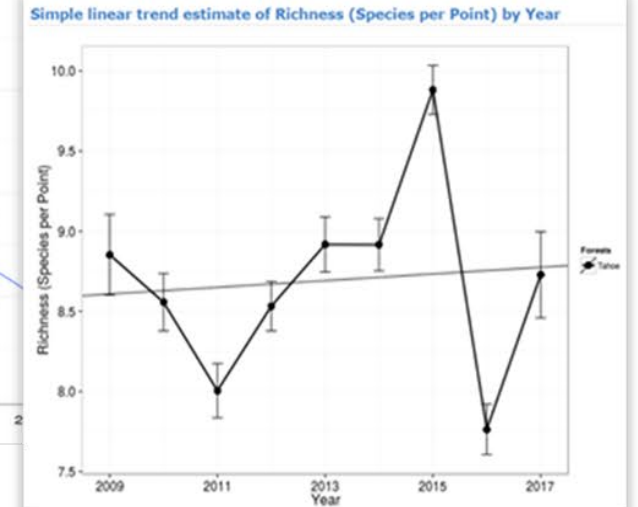
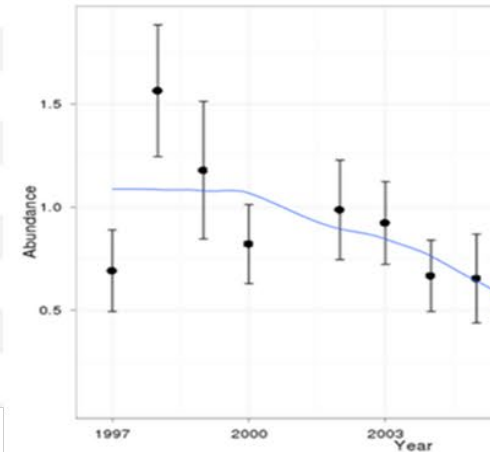
FULL AVIAN DATA LIFE CYCLE

ANALYSIS

Total Number of Observations of each Species by Year

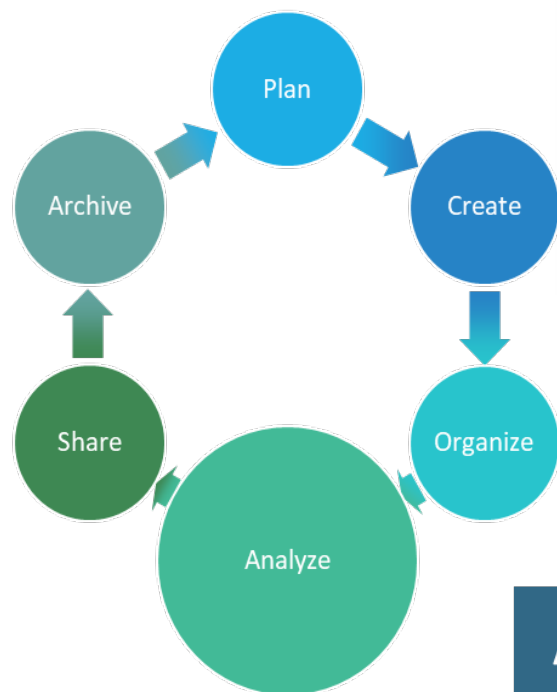
copy table to: [CSV](#) [HTML](#) [DOC](#) [PDF](#)

Common Name	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
American Crow	0	7	2	0	5	25	11	5	1	11	0
American Dipper	1	5	7	2	5	1	1	3	3	3	6
American Goldfinch	0	33	0	17	28	15	38	8	21	8	36
American Kestrel	0	Trend in Abundance over YearCollected. Generalized additive trend estimate of Abundance by Year with locally weighed (loess) smoother. Estimate for Species = Song Sparrow Using Locally Weighed (loess) Smoother									
American Pipit	5										
American Redstart	0										
American Robin	44										
American Three-toed Woodpecker	2										
Audubon's Warbler	55										
Bald Eagle	0										
Band-tailed Pigeon	0										
Barn Swallow	0										
Barred Owl	1										

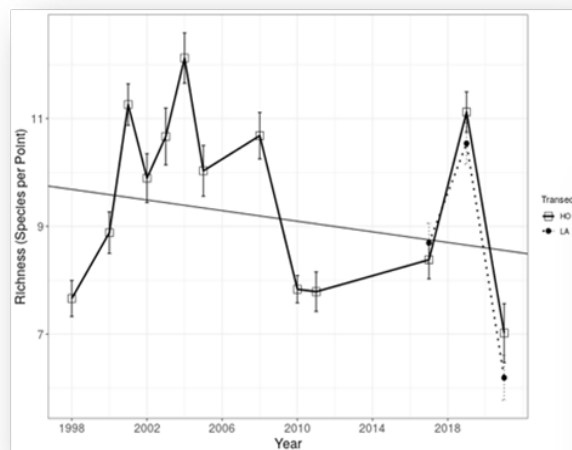




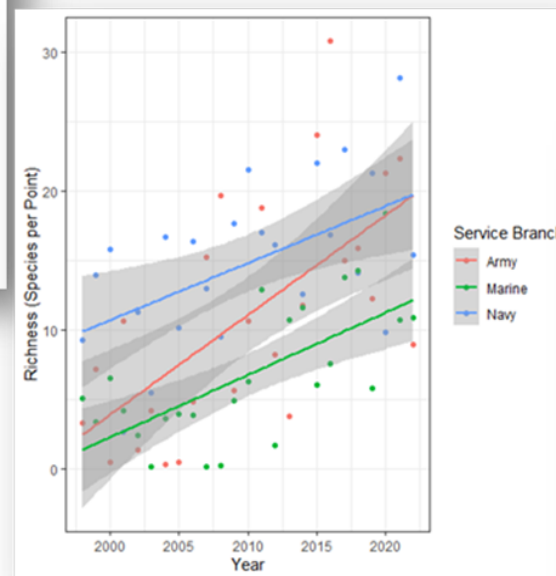
FULL AVIAN DATA LIFE CYCLE



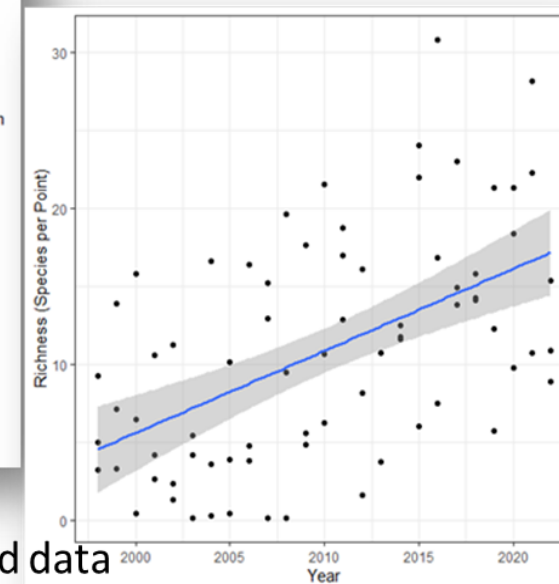
Vandenberg Space Force Base
Project Riparian Richness



Service Branch Program
Riparian Bird Richness



DoD Program
Riparian Bird Richness

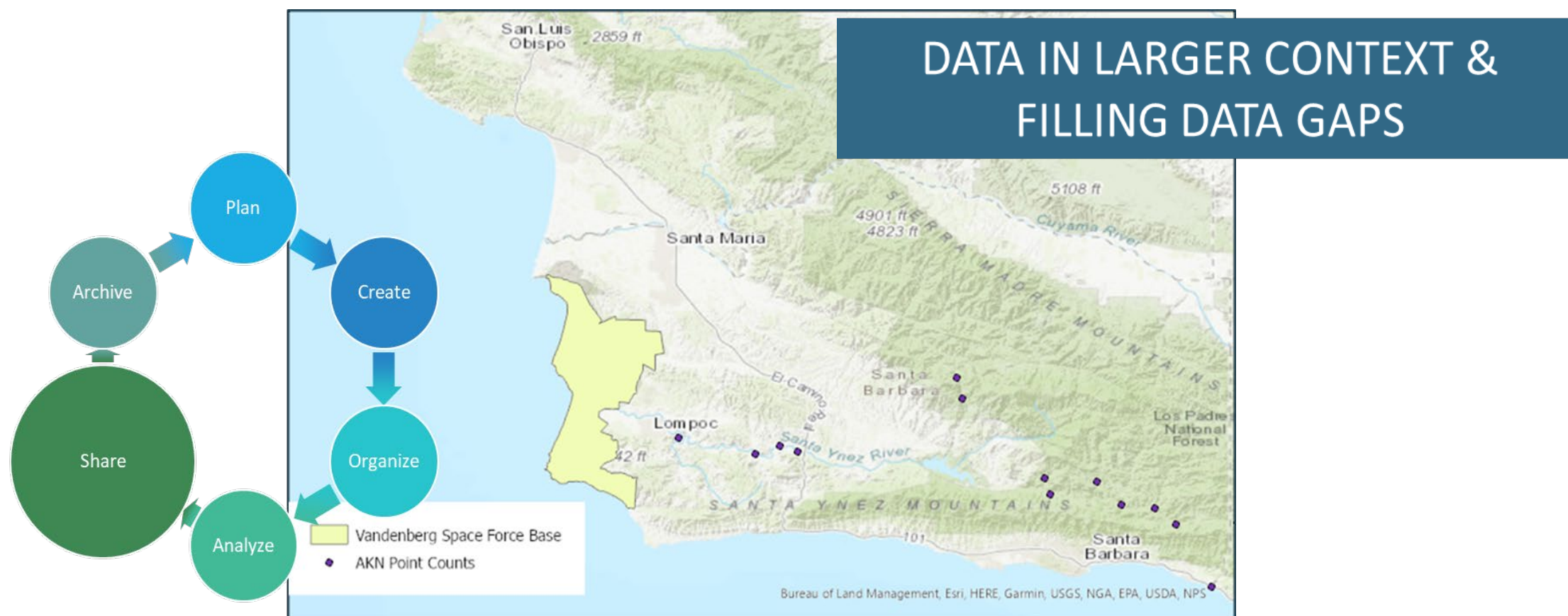


ANALYSIS AT MULTIPLE SCALES

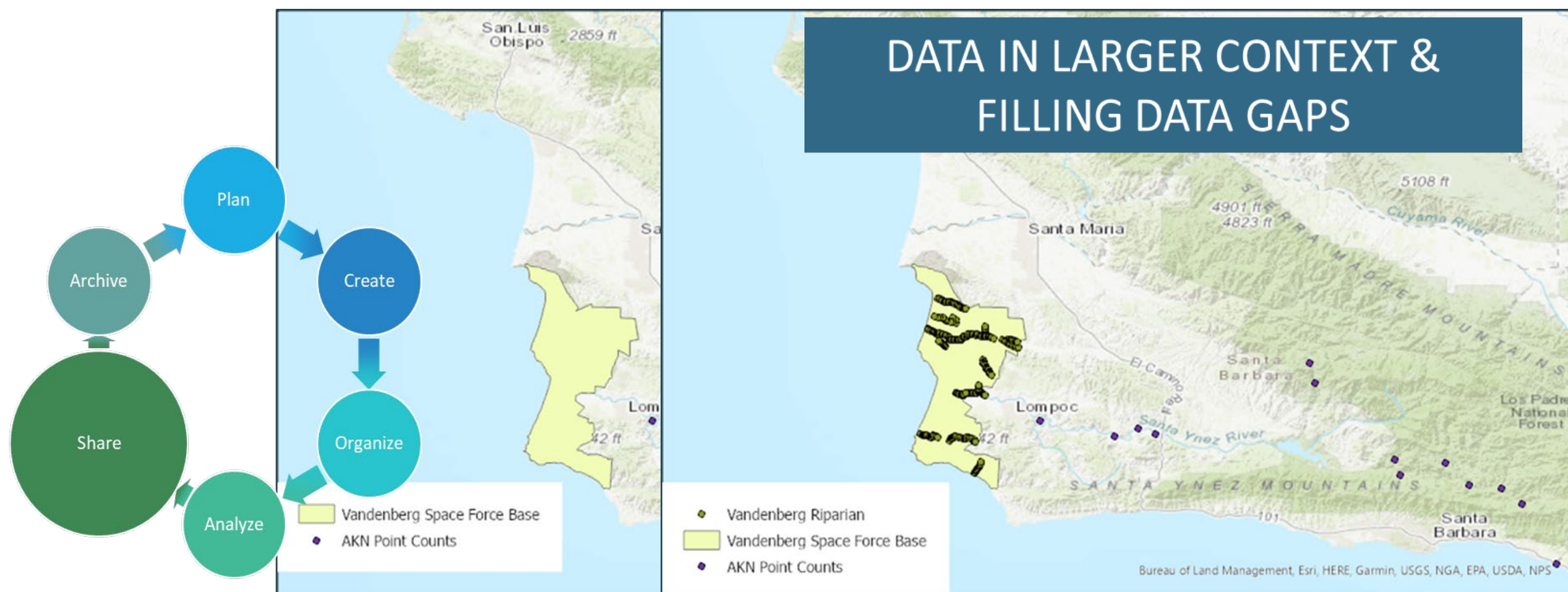
*Simulated data



FULL AVIAN DATA LIFE CYCLE

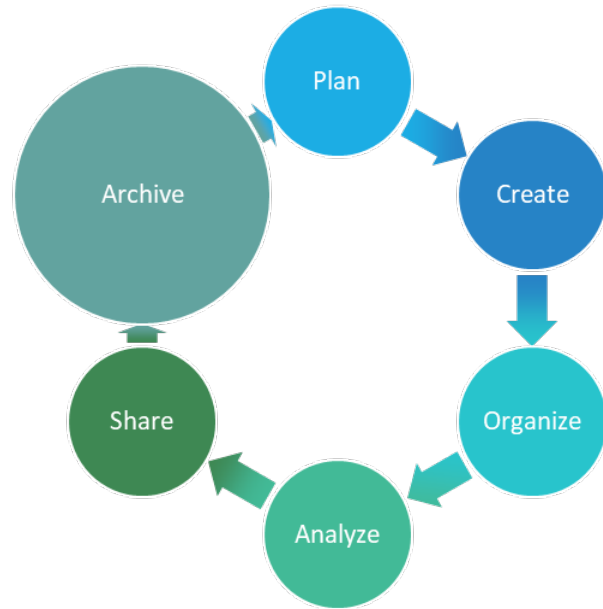


FULL AVIAN DATA LIFE CYCLE





FULL AVIAN DATA LIFE CYCLE



Field Observations - Download

FORT_CARSON - [DOD_ARMY] Fort Carson Point Counts [open new project](#)

Selecting Sampling Units: Check all of the Sampling Units you want to select by clicking on each one. Open any part of the tree to get to more Sampling Units. To uncheck a Sampling Unit, click on it again. If you check or uncheck a Sampling Unit that contains other Sampling Units, the entire set of Sampling Units will be checked or unchecked. Click *Select All* to select and *Clear All* to unselect everything in the tree.

1. Select sampling units from the tree below.

[select all](#) [clear all](#)

- ☐ ☒ FORT_CARSON - [DOD_ARMY] Fort Carson Point Counts
 - ☐ Fort Carson Marshbird (FC_MB)
 - ☐ Fort Carson Point Count (CARSON_PC)
 - ☐ Bird Farm (Grassland) (GB_BF)
 - ☐ TA 08 (Grassland) (GB_TA08)
 - ☐ TA 10 (Grassland) (GB_TA10)
 - ☐ TA 15 (Grassland) (GB_TA15)
 - ☐ TA 24 (Grassland) (GB_TA24)
 - ☐ TA 28 (PJ) (PJ_TA28)

2. Download observation data from selected Sampling Units into:

Filter by Date (or leave blank for all records):
From To

• Point Count Transect summary: [CSV \(Excel\) file](#) [HTML file](#)

• Point Count [CSV \(Excel\) file](#) [HTML file](#)

Project Protocols

[open new project](#) **FORT_CARSON - [DOD_ARMY] Fort Carson Point Counts**

[add one](#) [copy table to: CSV HTML DOC PDF](#)

Protocol Id	Protocol Name	Protocol Type	
BI_S_V_BI	BLRA,SORA,VIRA,BLTA	SecretiveMarshBirdCount	
IMBCR_VRPC	Bird Conservancy of the Rockies IMBCR 6 min count	PointCount	
SiteConditions_FORT_CARSON	Site conditions temperature, wind, sky, noise	SiteConditions	
VRPC__10min_2TB	Variable radius point count with detection cues lasting 10 minutes with 2 timebin and sex	PointCount	

4 rows

PERMANENT STORAGE & ACCESS



CAN YOU LOG IN?

Biologists:

data.pointblue.org/science/biologists

Problems logging in?

Best to find a buddy or have one
of us help!



LIMITATIONS AND CAVEATS

Focus for this training: Point Count data

Office hours are where we can dig deep into your installation's specific projects, data needs, and issues.

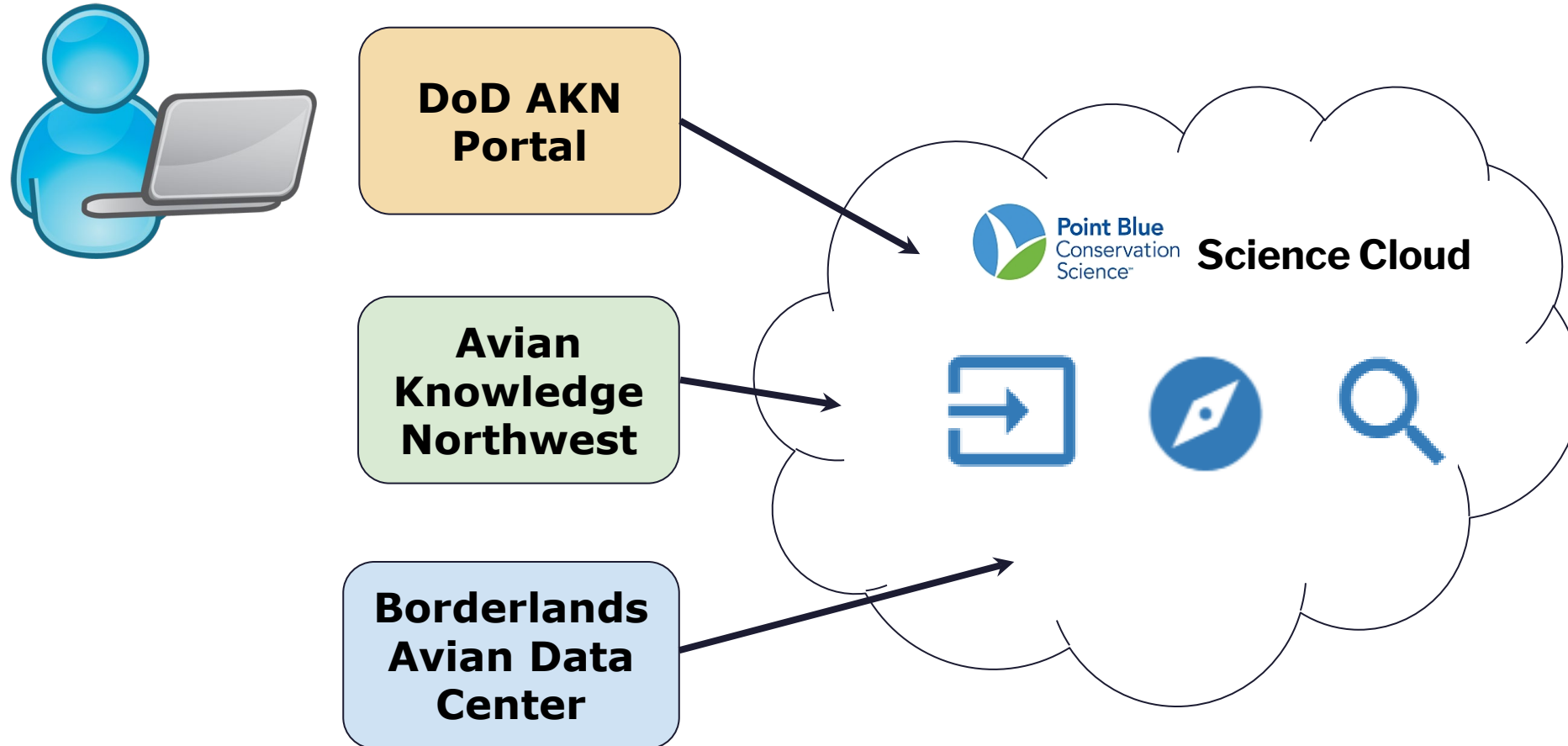


AKN PROJECT DATA 101





AKN: COMMON CLOUD TECHNOLOGY





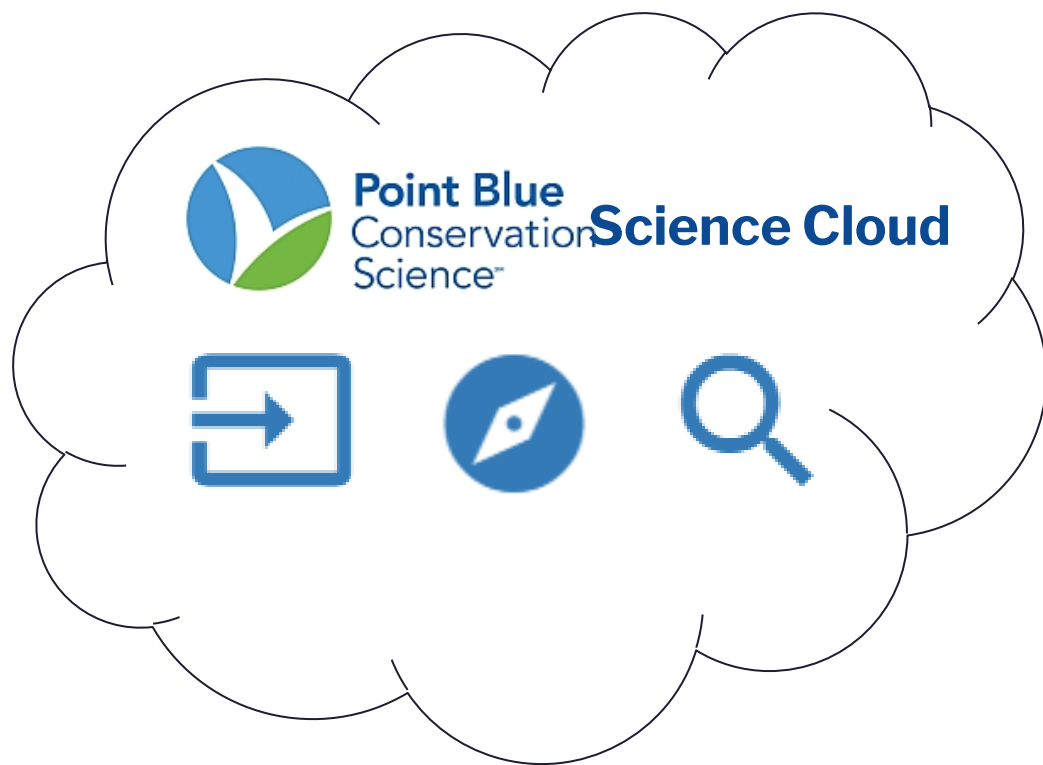
FOCUS FOR THIS TRAINING

How do we represent protocol-based science?

How do you get data in?

How do you get your data & information out?

What conservation questions can you answer?





MA ARMY NATIONAL GUARD

- Biologist leaving position one week after training
- Had 20+ years of data
- Working through data, realized inconsistencies in data entry
- Standardized protocol in system, showing required fields to be utilized in all future surveys
- Successfully uploaded 35,000 records prior to leaving DoD
- Data ready and available to successor



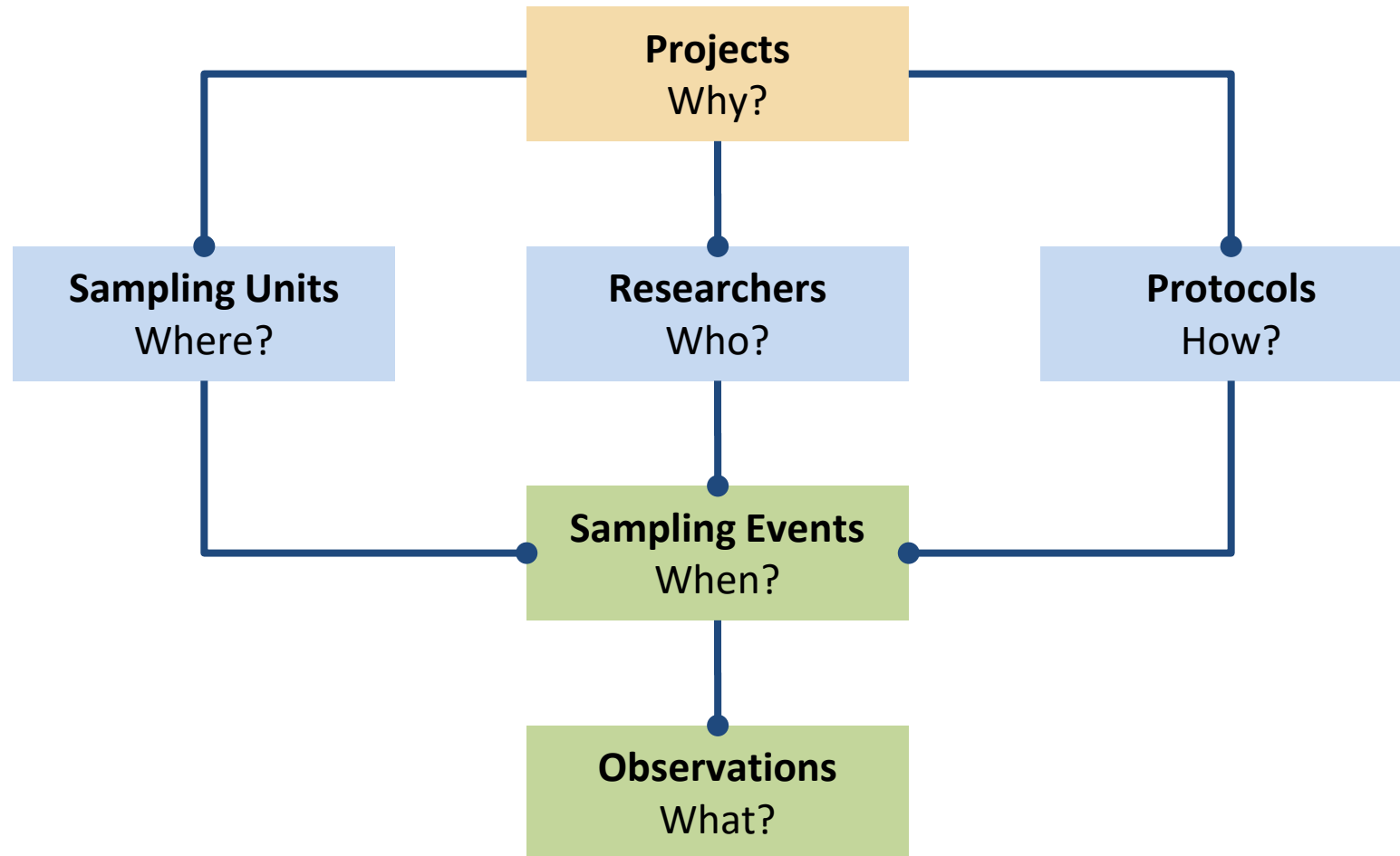
AKN PROJECT DATA 101

1. The parts of a Project Database

2. The workflow for creating and managing a Project

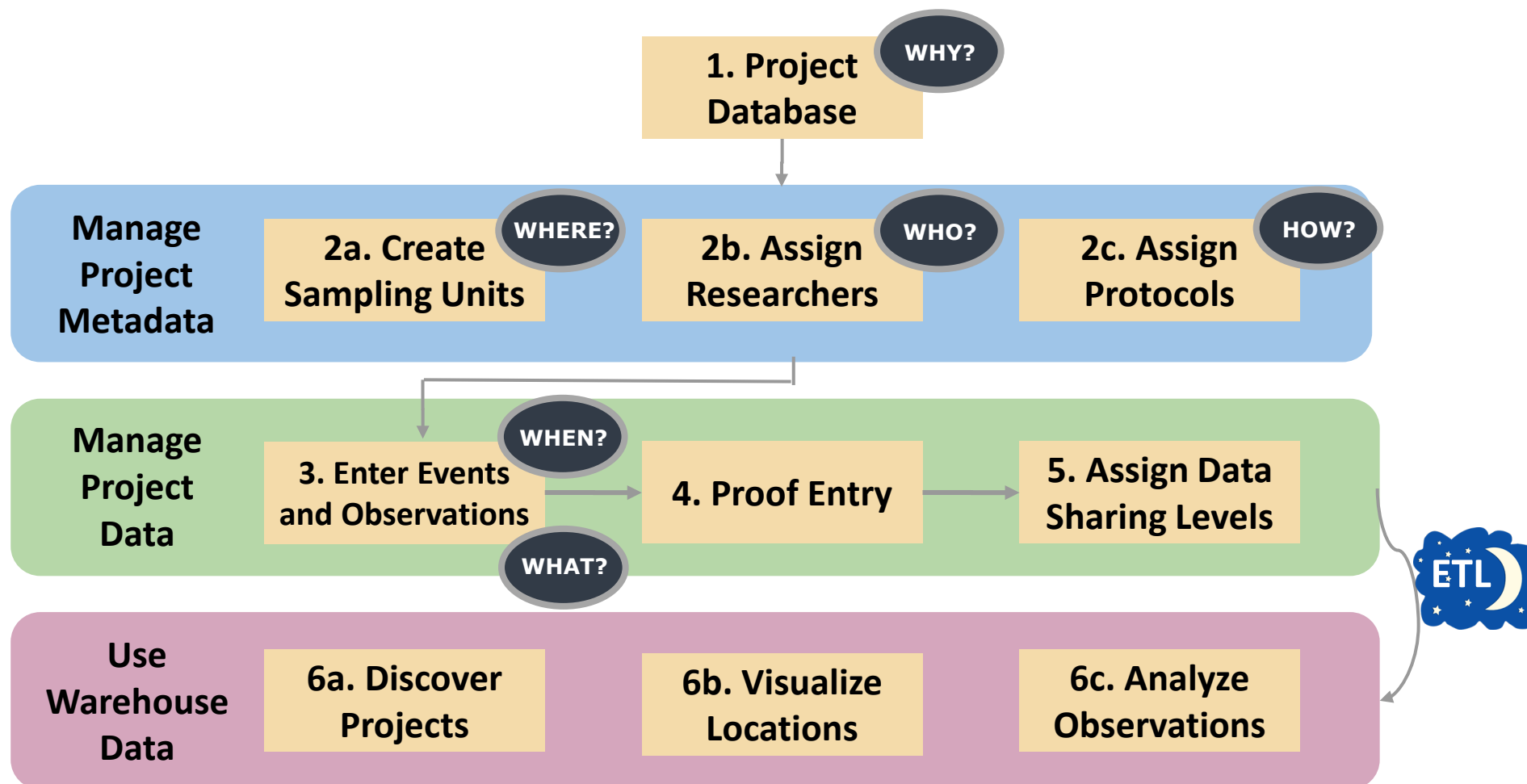


THE PROJECT DATABASE



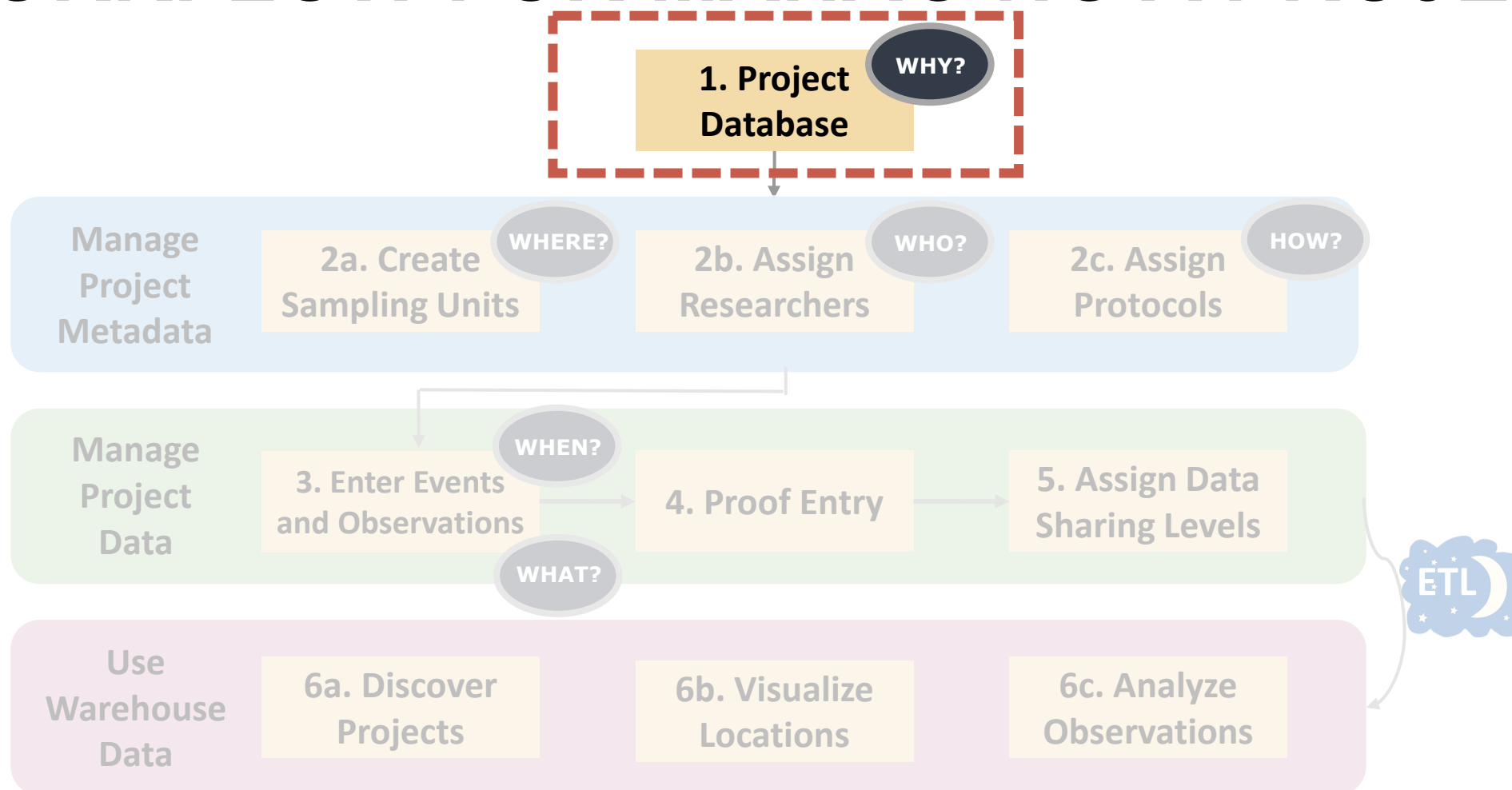


WORKFLOW FOR MANAGING A PROJECT





WORKFLOW FOR MANAGING A PROJECT





PROJECT

Container for Event and Observation data

Many ways to organize

For DoD: Project = Installation*



DoD Program Structure



Air Force Subprogram



Installation Project
Databases

Army Subprogram



Installation Project
Databases

Navy Subprogram



Installation Project
Databases

Marine Subprogram



Installation Project
Databases

National Guard Subprogram



Installation Project
Databases*

*National Guard
Projects = State
Installation = Study Area



DoD Program Structure



**Air Force
Subprogram**



Installation Project
Databases

**Army
Subprogram**



Installation Project
Databases

**Navy
Subprogram**



Installation Project
Databases

**Marine
Subprogram**



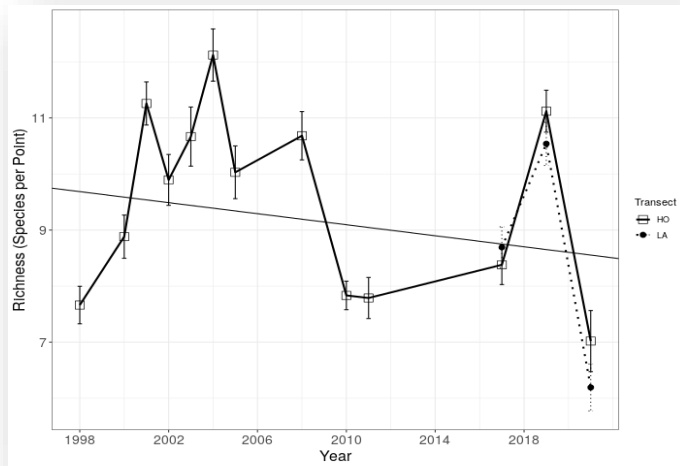
Installation Project
Databases

**National Guard
Subprogram**



Installation Project
Databases

Vandenberg Space Force Base Project Riparian Richness





DoD Program Structure



**Air Force
Subprogram**



Installation Project
Databases

**Army
Subprogram**



Installation Project
Databases

**Navy
Subprogram**



Installation Project
Databases

**Marine
Subprogram**



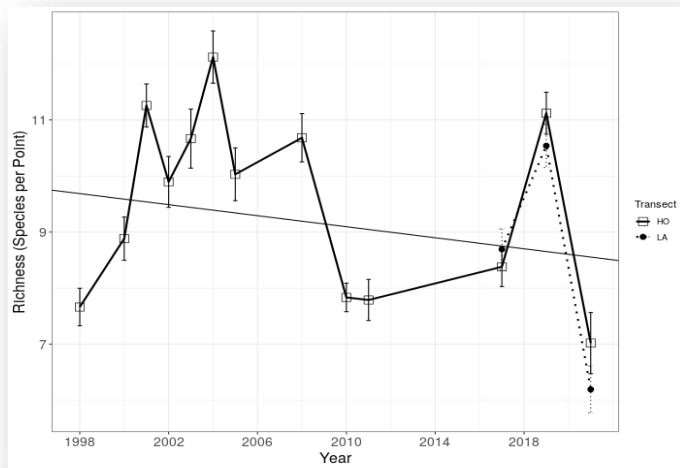
Installation Project
Databases

**National Guard
Subprogram**

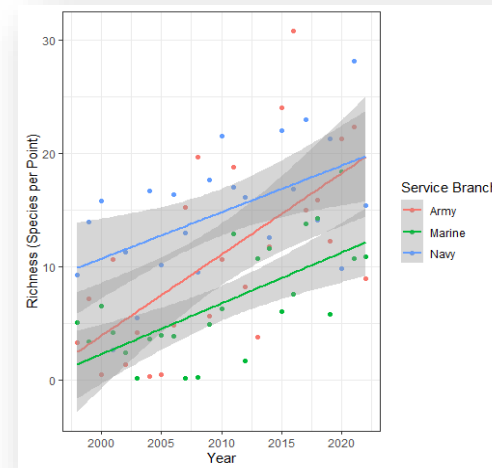


Installation Project
Databases

Vandenberg Space Force Base Project
Riparian Richness



Service Branch Program Riparian
Bird Richness





DoD Program Structure



Air Force Subprogram



Installation Project
Databases

Army Subprogram



Installation Project
Databases

Navy Subprogram



Installation Project
Databases

Marine Subprogram



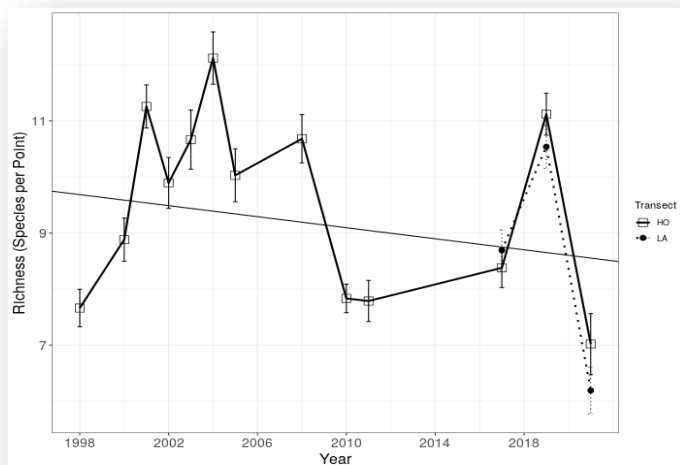
Installation Project
Databases

National Guard Subprogram

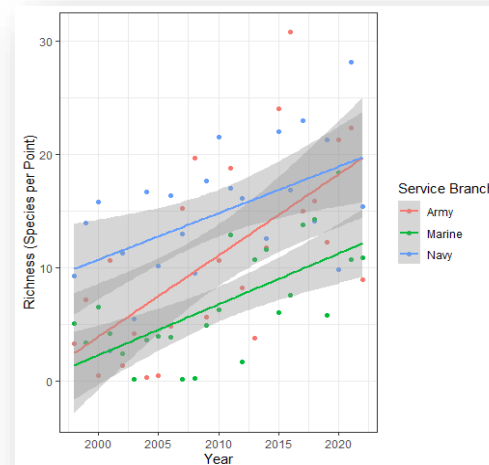


Installation Project
Databases

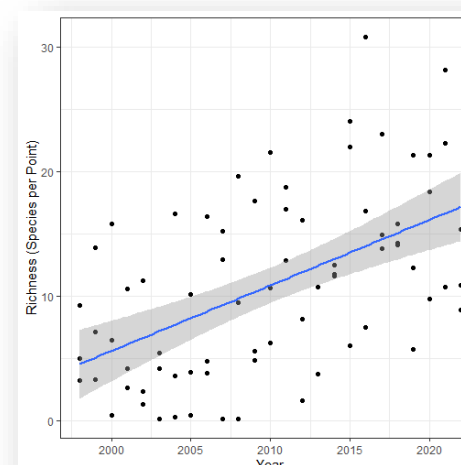
Vandenberg Space Force Base Project
Riparian Richness



Service Branch Program Riparian
Bird Richness



DoD Program Riparian
Bird Richness





CASE STUDY:

BARRY M. GOLDWATER RANGE (BMGR), AZ

- Participating in Desert Thrasher Working Group
- Existing protocol in the AKN system
- Critical to add data to DoD-owned project
- Conducted surveys and entered data into BMGR project using desert thrasher data entry protocol available in AKN
- Shared data with thrasher initiative
- Data will show when querying DoD data for this species



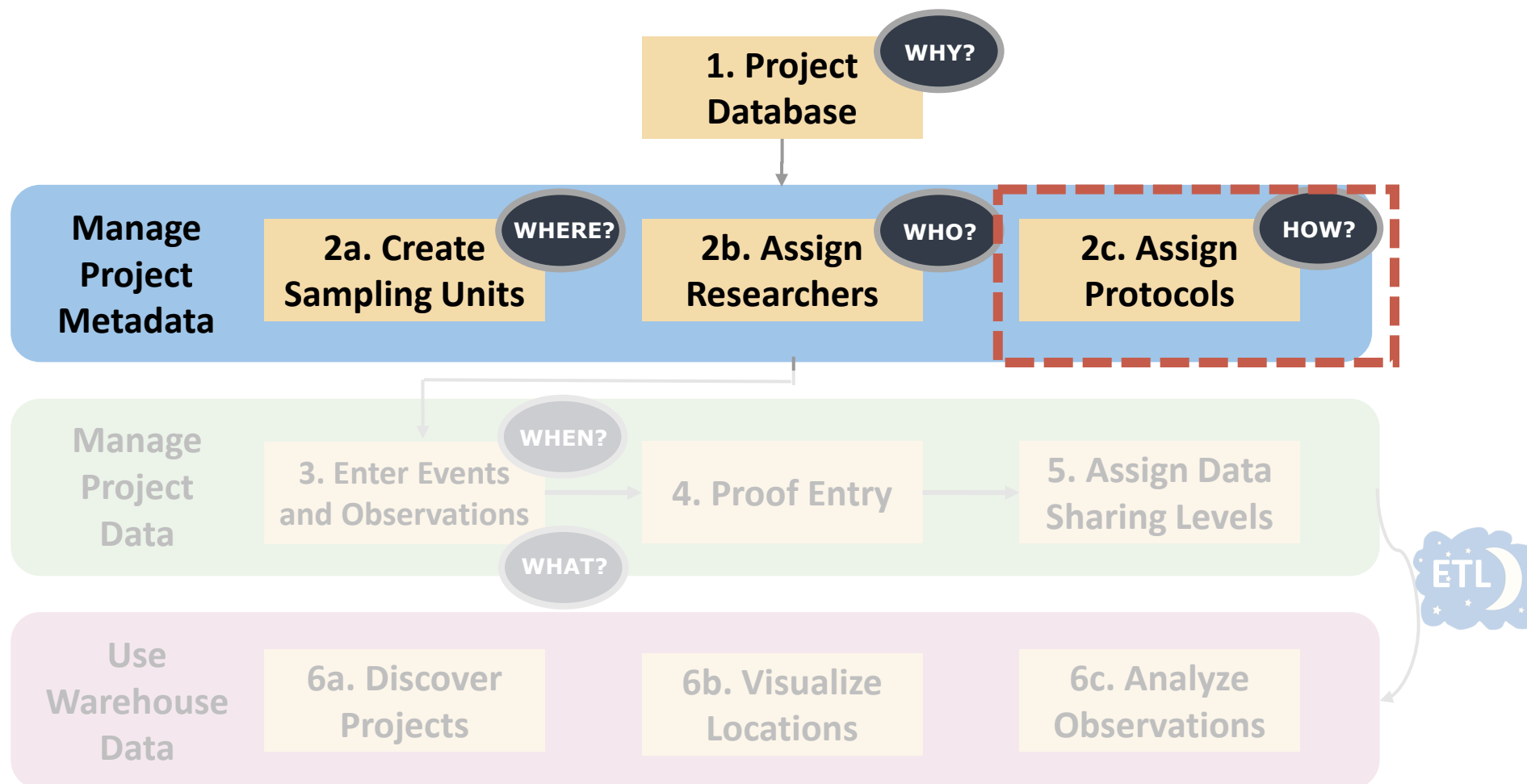
BREAK

NEXT: PROJECT PROTOCOLS





MANAGING A PROJECT: PROTOCOLS





PROTOCOLS

The *metadata* describing the methods and mechanics of **how** observations were collected

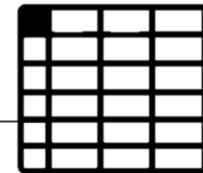
Should provide enough information for researcher 20 years from now to understand the methods you used



FIELD METHODS

vs.

AKN PROTOCOLS



A Survey Protocol for Pinyon Jay Road-based Point Count Surveys

Version 1, March 2023

The road-based survey is a useful method of surveying for Pinyon Jays under certain circumstances and can be used in conjunction with or as an alternative to the Pinyon Jay Working Group (PJWG) pedestrian-based area search survey protocol (Boone et al. 2023; <https://partnersinflight.org/resources/pinyon-jay-working-group/>). Table 1 compares the two protocols.

The PJWG protocol consists of pedestrian surveys of 2.5 x 2.5 km blocks. That method is useful for discrete survey areas known or suspected to have Pinyon Jays, surveys with adequate personnel and funding to complete the time-intensive pedestrian surveys, and areas where foot traffic is allowed.

In some situations, however, road-based surveys may be more appropriate than pedestrian surveys. For example, pedestrian surveys or multiple visits may not be feasible in areas where no information on Pinyon Jay presence exists; in extremely large, previously un-surveyed areas; when financial and personnel resources are limited; or where foot traffic is prohibited, such as some areas on DoD installations.

The key elements of the road-based protocol are:

- 1) Use of 5 x 5 km blocks as the primary survey units. For analysis consistent with 2.5 km surveys, 5 km blocks can be sub-divided into 2.5 km blocks ("plots" in the PJWG protocol).

The 5 km blocks (25 km²) are recommended because of the greater geographical coverage possible with road-based surveys. This block size is based on radio telemetry studies of Pinyon Jay flocks and approximates known breeding season home ranges. [Examples include: 43.05 km² (including two colonies of 16.67 km² and 26.38 km²) (Johnson et al. 2014); 25.51 km² (Johnson et al. 2014); 26.99 km² (Novak 2019).] It is designed to reduce the possibility that a) a single flock moving over its home range will be counted two or more times, and b) more than one flock will be counted as a single flock (resulting in undercounts in a survey block that is too large). Either double-counting or under-counting is undesirable for a species of conservation concern, where accurate population estimates, trends, and occupancy are necessary for conservation and management. Road-based sampling can cover a block rapidly, before a flock can move into a neighboring block, potentially reducing both types of errors.
- 2) Delineation of survey routes along selected roads within the blocks (Figure 1). Blocks must include enough accessible road length to allow at least three point-count stops. If blocks will be subdivided into 2.5 km blocks for analysis, it is desirable to include at least three point-count stops in each 2.5 km block analyzed. However, this may not be possible

Sampling Protocol Definition

Protocol: PIJA_6min

Description	Road-side Point Count PIJA protocol
URL	No URL
Duration	6 minutes
Protocol type	PointCount
Other characteristics	Binned distance protocol

Detection Cues

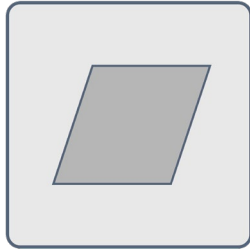
Summary: A (Aural), NA (Not recorded on datasheet), V (Visual), VA (Both Visual and Aural)

Cue	Description
A	Aural
NA	Not recorded on datasheet
V	Visual
VA	Both Visual and Aural

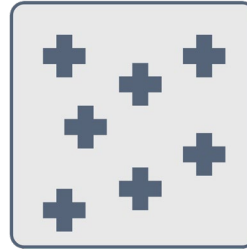
Distance Bins



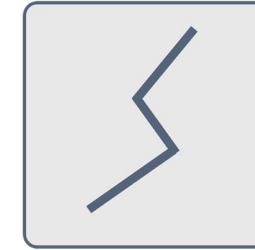
PRIMARY PROTOCOL TYPES



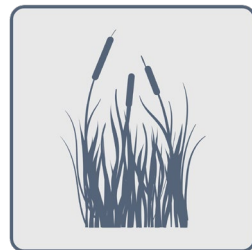
Area Search



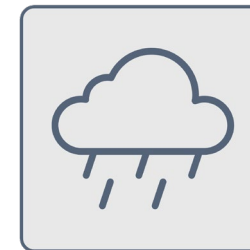
Point Count



Linear Transect



Secretive Marshbird



Site Conditions



PROTOCOL TYPES DISCUSSION



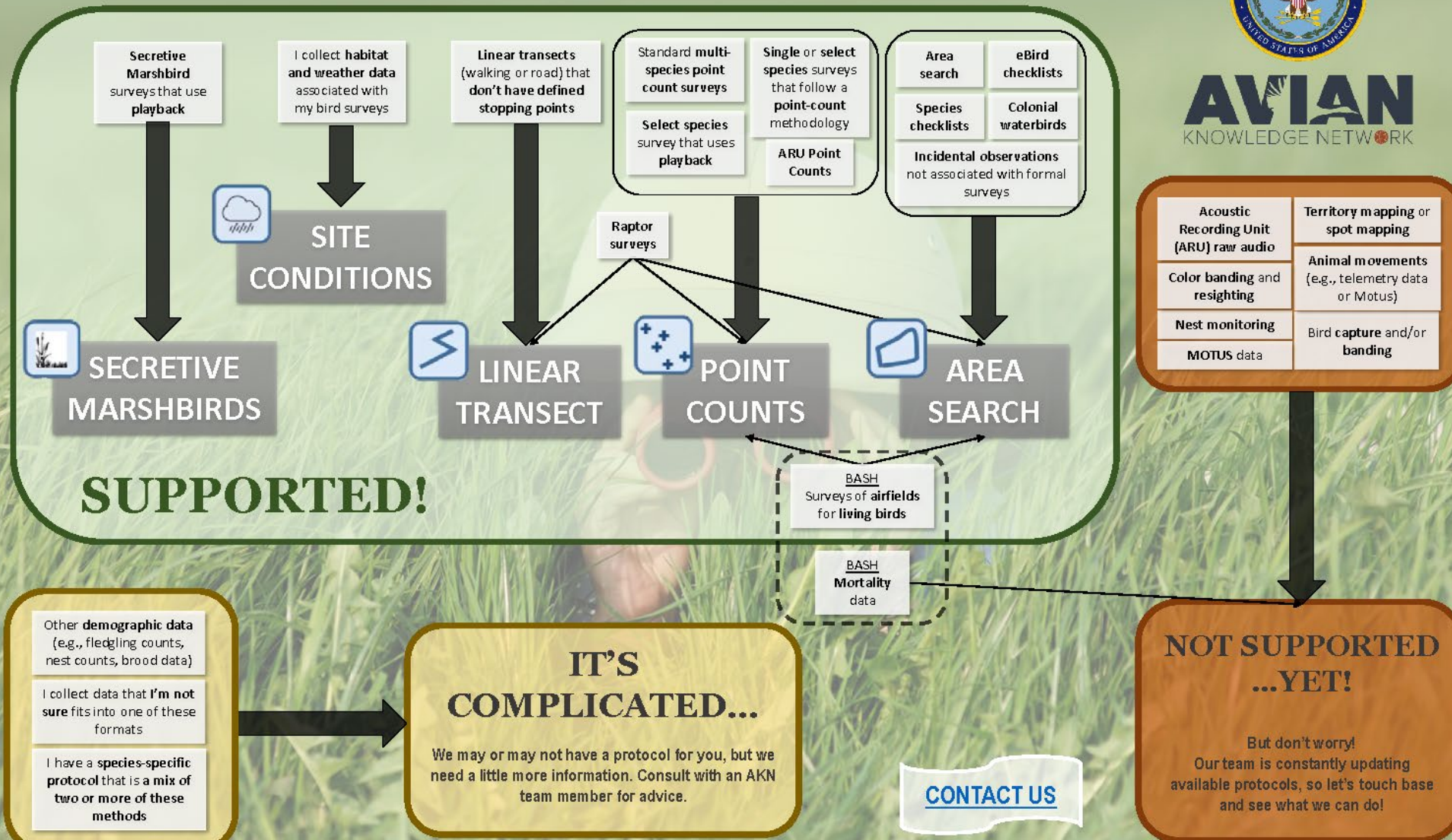
Point Counts



Area Search



Is your data-type currently supported in AKN??





POINT COUNT PROTOCOLS

Duration of survey at each point

Time (binned)

Distance (binned or exact), maximum

Detection codes

Can include **breeding behavior**

Assumed **exhaustive** survey

Each animal **counted once**





POINT COUNT PROTOCOL EXAMPLES

Compare how 3 field methodologies are represented:



[Bird Conservancy of the Rockies IMBCR protocol](#)

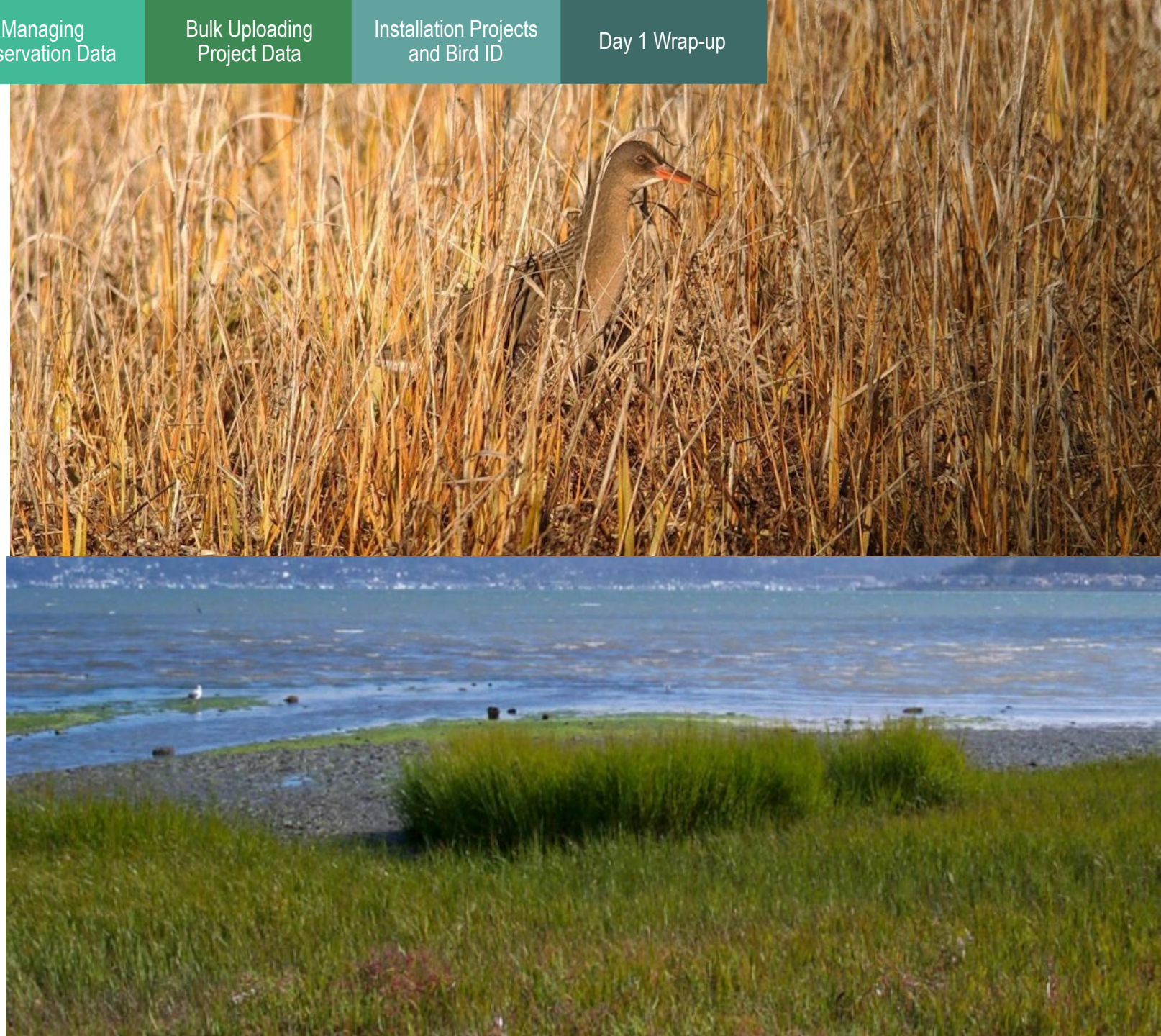


[Point Blue protocol](#)



[KBO protocol](#)

HOW TO ACHIEVE CONFLICTING CONSERVATION OBJECTIVES: *THE IMPORTANCE OF STANDARD PROTOCOLS*



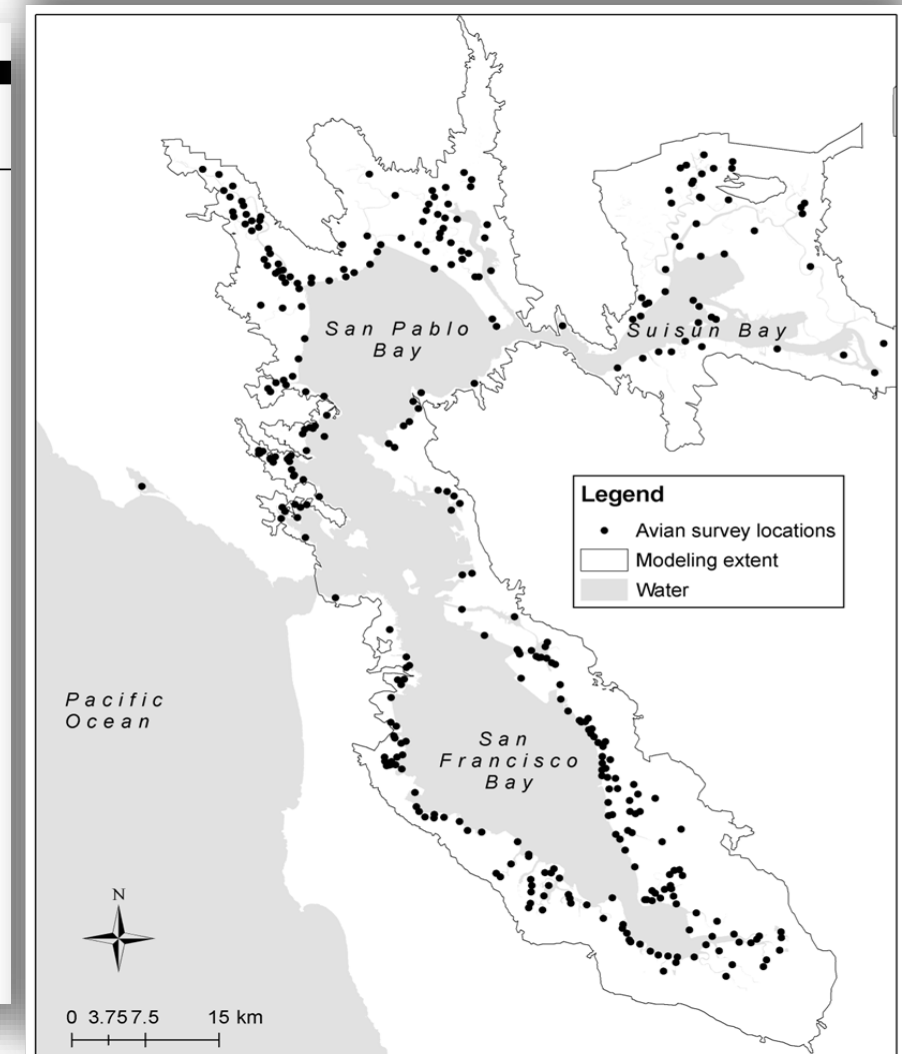
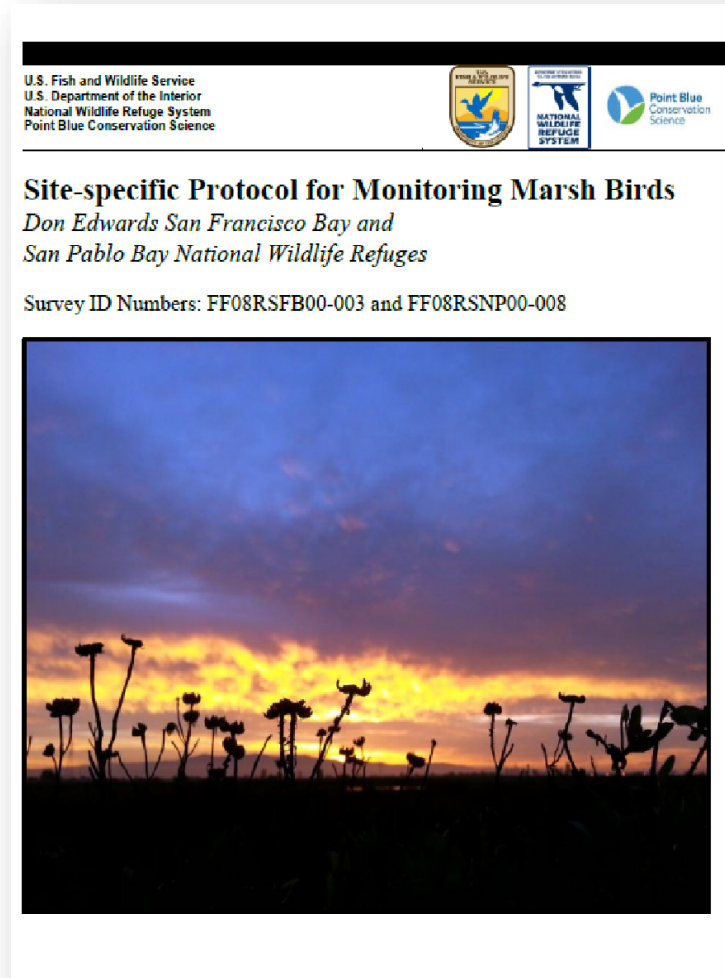
ASSESSING RAIL RESPONSE TO MANAGEMENT: THE CHALLENGE



Multi-partner Effort

DEVELOPING A STANDARD PROTOCOL

- North American Marsh Bird Protocol-SF Bay
 - 10 min broadcast point count
- Long-term dataset since 2005
- **All partner data in the AKN**





CHOOSING PROTOCOLS (DEMONSTRATION)

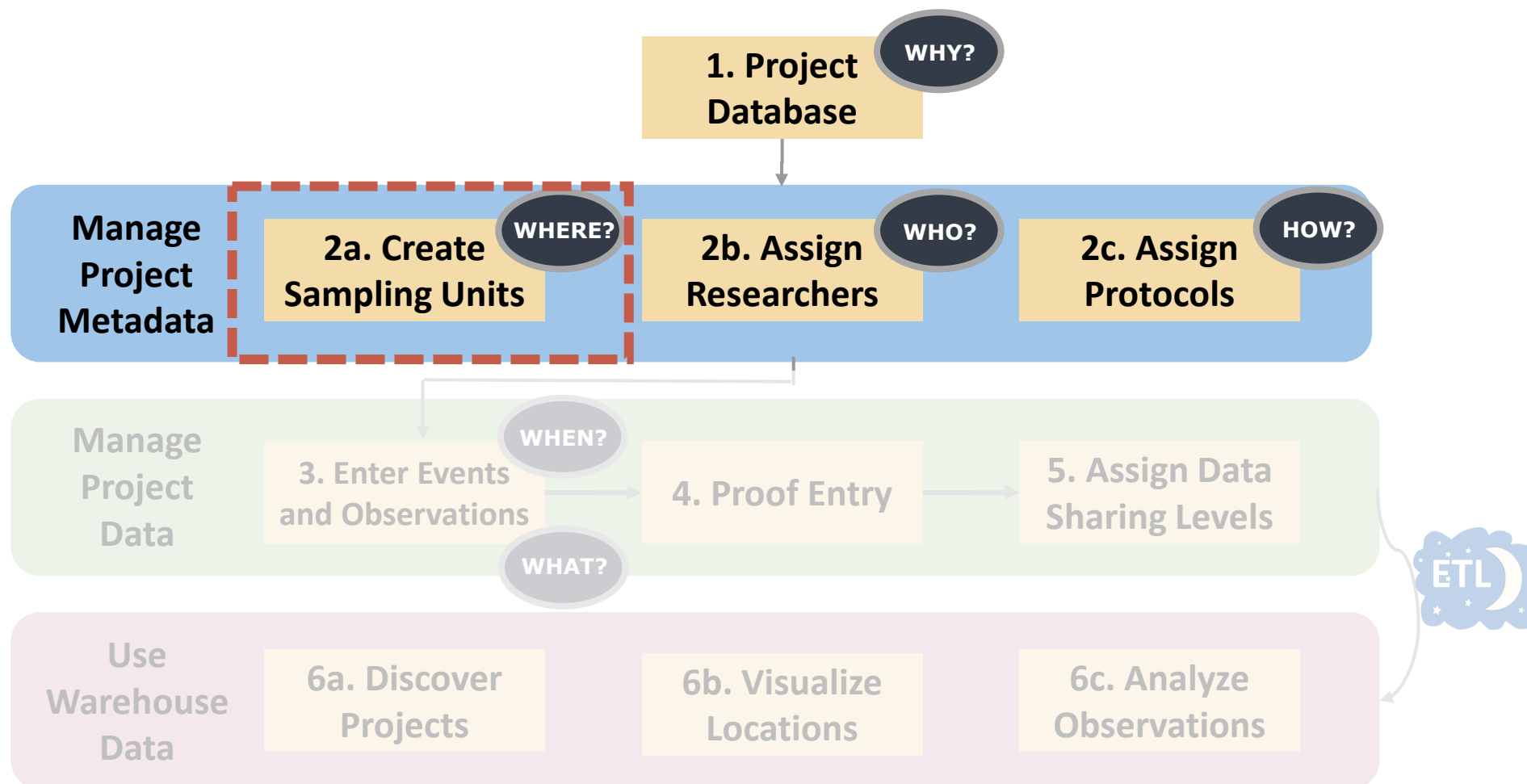
Goal: select Point Count and Site Conditions protocols that match data sheet

Tools:

- Our [data sheet](#)
- Protocol search [tool](#)
- [Project Leaders](#) for adding protocol to project



MANAGING A PROJECT: SAMPLING UNITS





SAMPLING UNITS

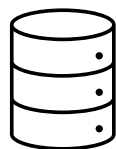
The locations where observations are collected

Organized into a tree (hierarchy)

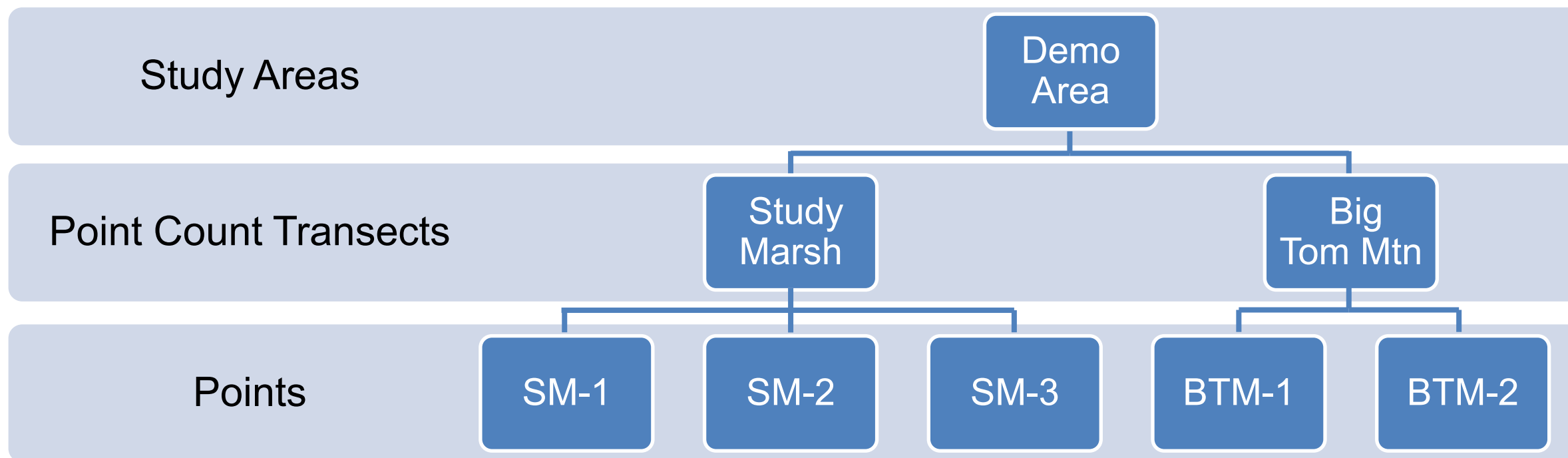
Uniquely named with Project

Can have Point/Line/Polygon

SAMPLING UNIT TYPES FOR POINT COUNTS



Project: DOD_DEMO

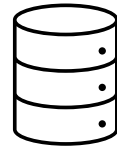


Replicates or independent points?
What questions are you asking?

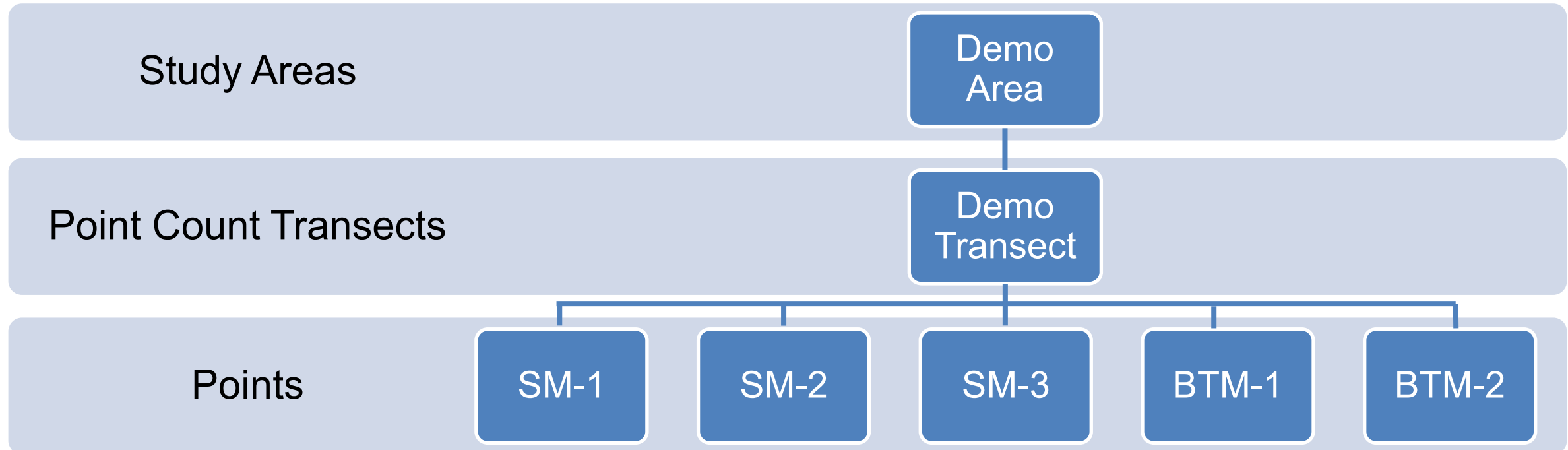
2a. Create
Sampling Units

WHERE?

SAMPLING UNIT TYPES FOR POINT COUNTS



Project: DOD_DEMO



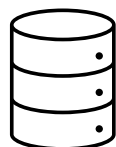
Replicates or independent points?
What questions are you asking?

2a. Create
Sampling Units

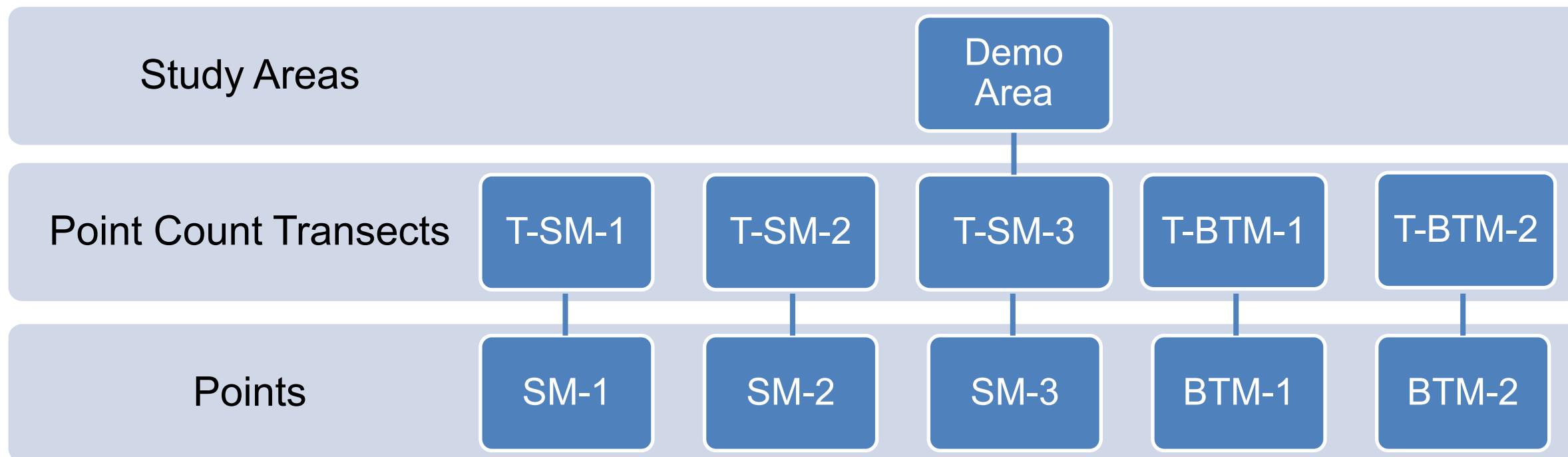
WHERE?



SAMPLING UNIT TYPES FOR POINT COUNTS



Project: DOD_DEMO

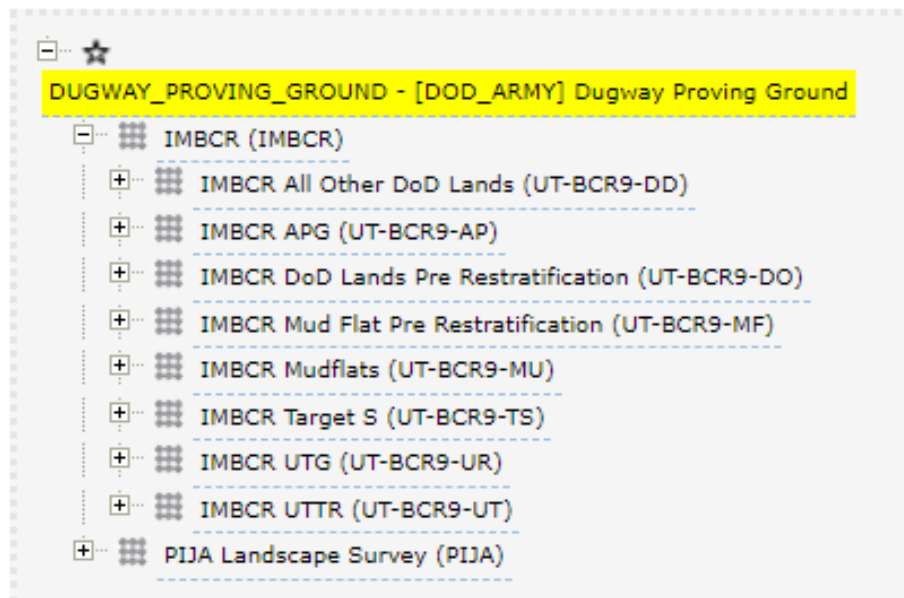


Example- Single-point Transects
(independent points)



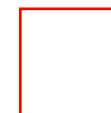
DUGWAY_PROVING_GROUND - [DOD_ARMY] Dugway Proving Ground

Click on the Sampling Unit or Project you want to select (it will highlight the tree node and the tooltip will tell you what type of feature it is).





= Point Count Point



= Area Search

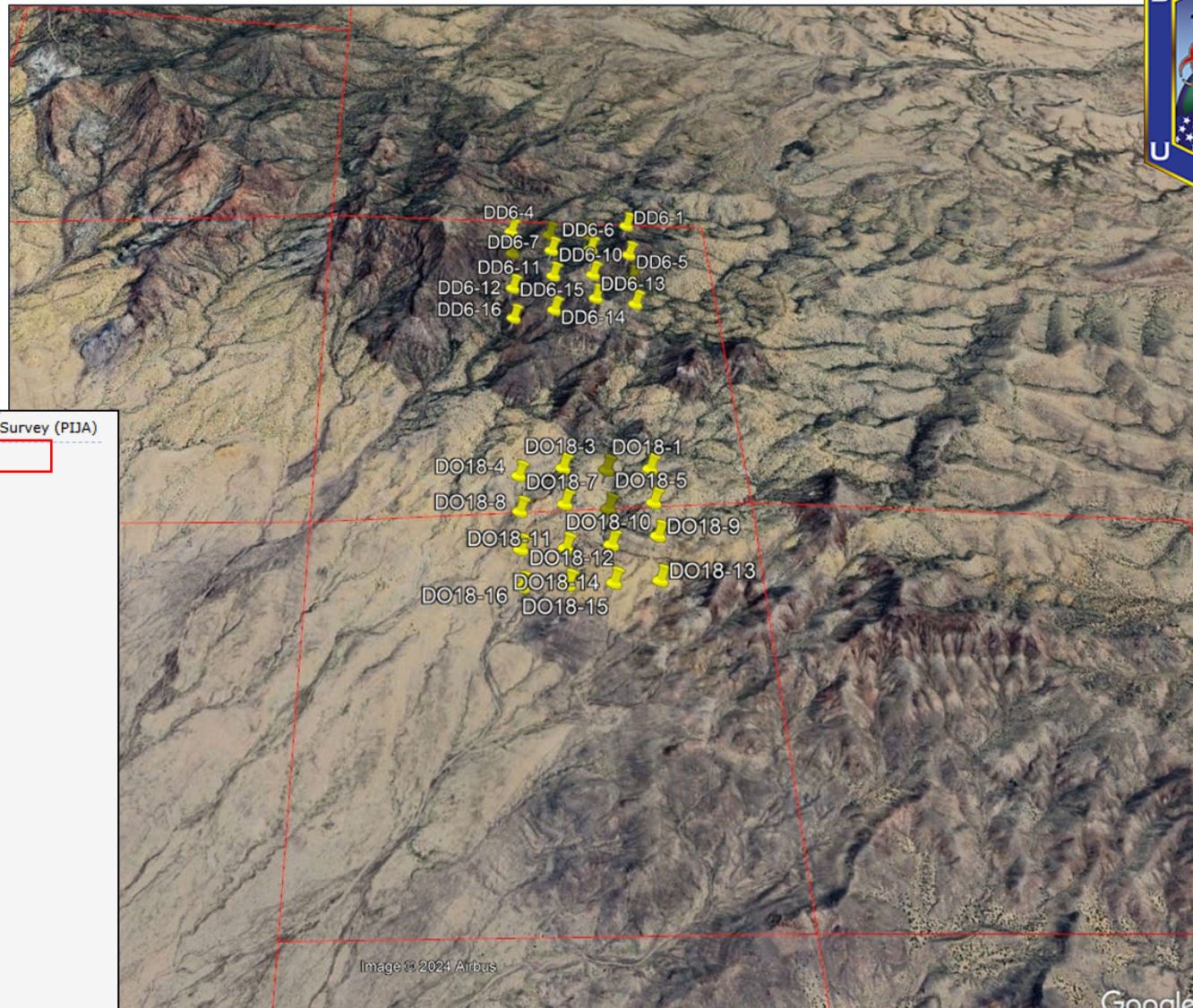


Image © 2024 Airbus

Google



EXAMPLE: FORT CAVAZOS (HOOD), TX

- Both the Adaptive and Integrative Management Team and Endangered Species Team utilizing system in one installation project
- Structured sampling units for differing survey types

Project Protocols

open new project

FORT_HOOD - [DOD_ARMY] Fort Hood

add one

copy table to: C

Protocol Id ?	Protocol Name ?	Protocol Type
FTHOOD_WEATHER_COWS	Weather with temp, wind, sky, and precipitation, and total number of cows	SiteConditions
FTHOOD_WEATHER_FALL_COWS	Weather with temp, wind, sky, and precipitation, and total number of cows for fall point counts	SiteConditions
VCP100Sx	Variable Circular Plot, exact distances to 100m, then >100 with AnimalSex, and bins over 100m for NOBO	PointCount
VCP_60m_4db	Variable distance point count 60 minutes with 4 distance bins <100, 100-250, 250, 500, >500	PointCount

4 rows

1. Select sampling units from the tree below.

select all

clear all

- ☐ ☐ ★ FORT_HOOD - [DOD_ARMY] Fort Hood
 - ☐ ☐ Grassland Point Counts 2016-2018 (GRASSLAND)
 - ☐ ☐ Monitoring of Owls and Nightjars (MOON)
 - ☐ ☐ Northern Bobwhite Point Counts (NOBO_PC)



MANAGING PROJECT METADATA

EXERCISE 1: CREATE SAMPLING UNITS



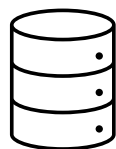


CREATE SAMPLING UNITS

EXERCISE 1

Purpose: Learn how to create a sampling unit hierarchy within a project to support a point count survey

Goal: Create a new point count transect with one point under your service branch's Study Area (e.g., Navy) in the "DOD_DEMO" Project



Project: DOD_DEMO



CREATE SAMPLING UNITS

EXERCISE 1 *(THINKING AHEAD)*

- Consider how you might organize your data
 - Study Areas can be based on survey type rather than geography:
 - Ex- Study Area 1: multi-species point counts
 - Ex- Study Area 2: burrowing owl surveys
 - Only group points together in the same transect if they are part of the same survey (geographically grouped and collected on the same day)
 - Consider how you might name your study locations based on geographic features and numbers. (e.g., Emerald Hills 1, Alpha Maneuver Area 3)
 - Remember the hierarchy for point counts is
Study Area → Transect → Point(s)
- We will be building on this exercise later! Think about how your naming strategy can scale as you add surveys and points.



CREATE SAMPLING UNITS

EXERCISE 1

Reminder about Study Areas: In the project DOD_DEMO, your STUDY AREA is your service branch. The name is listed first, followed by the short name in parentheses.

1. Select sampling units from the tree below.

select all

clear all

☐

☐

☒

DOD_DEMO - DoD Demonstration Project

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Air Force (AIRFORCE)

Army (ARMY)

Marine Corps (MARINES)

National Guard (GUARD)

Navy (NAVY)

Other Service Branches (OTHER)

For example, this Study Area Name is Air Force, and the Study Area Short Name is AIRFORCE



CREATE SAMPLING UNITS

EXERCISE 1

[Exercise 1 instructions](#)



LONG NAME VS SHORT NAME: WHAT'S THE DIFFERENCE?

- Every sampling unit has a **Short Name** and a **Long Name**
 - Short Names and Long Names can be the same
- **Short Name** + **Long Name** combinations must be unique within an AKN Project
 - e.g., transect names and point count names **CAN NOT BE THE SAME**
- **Short Names** will be seen throughout the tools and in your data download
 - It is the shorthand name for each sampling unit
- **Short Names** are limited to 12 characters
- **Long Names** can be longer and more descriptive, if useful



LONG NAME VS SHORT NAME: WHAT'S THE DIFFERENCE?

EXAMPLES (any of these would be correct):

Point Count Transect Long Name	Point Count Transect Short Name
East Training Area	ETA
East Training Area 1	ETA-1
ETA	ETA
ETA-1	ETA-1



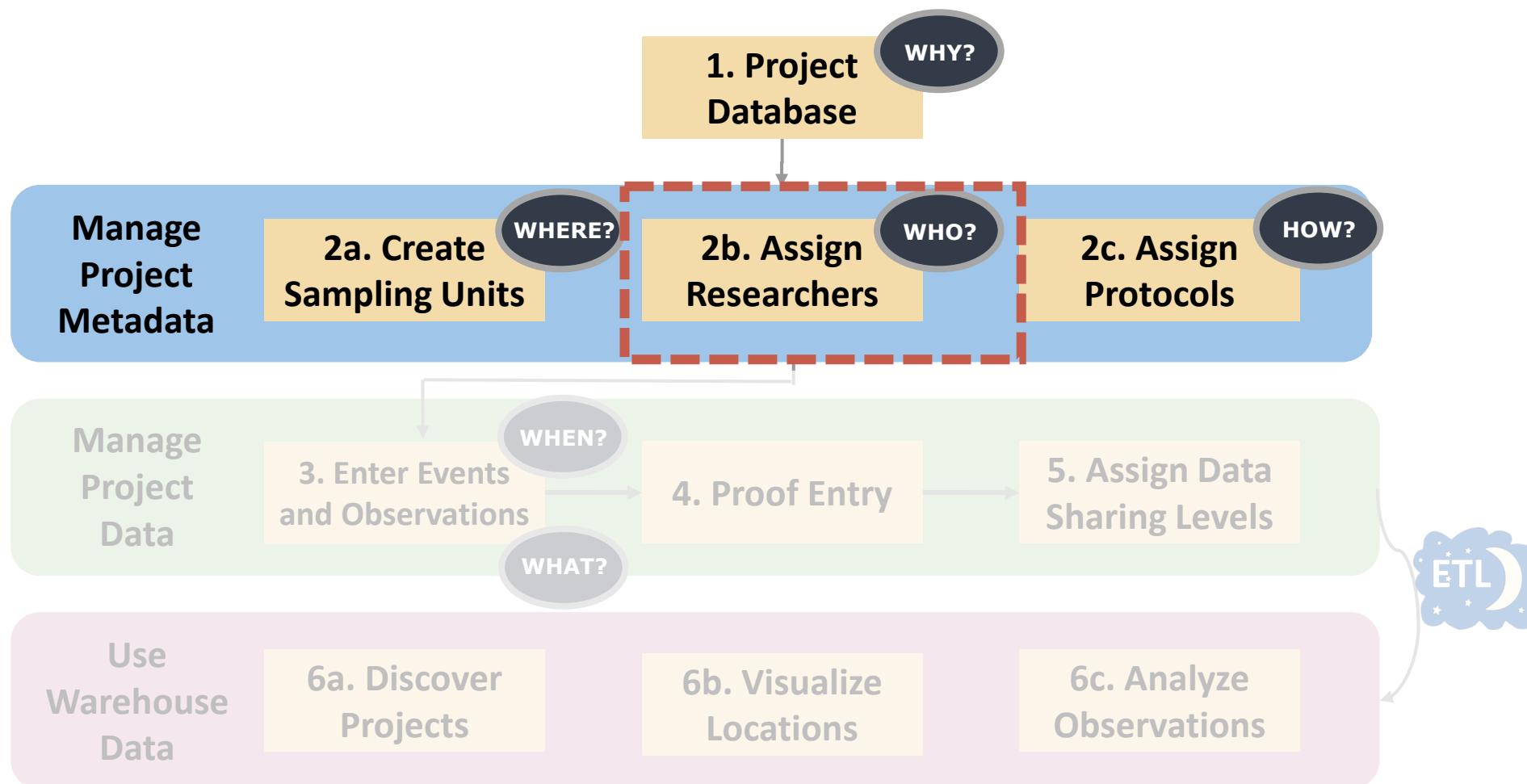
DOWNLOAD SAMPLING UNITS DEMONSTRATION

Download sampling units:

- [Project Leaders](#) for download sampling unit locations to GPS, GIS and more



MANAGING A PROJECT: RESEARCHERS





RESEARCHERS

People identified in a Project for getting access and/or who made observations

Created by user registration (for active users) or manual entry (for historical data)



RESEARCHER TYPES

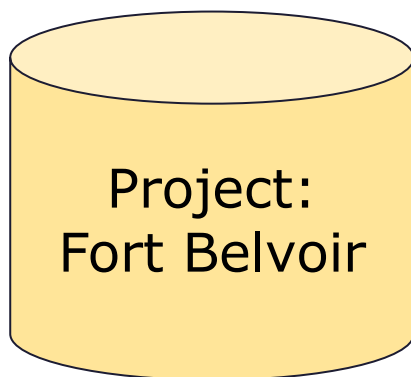
Project Leader: the data owner, has full control over data, metadata, and who gets Project access

Biologist: can enter and review data in the Project

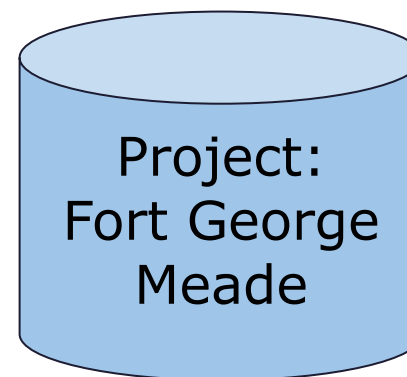


RESEARCHERS & PROJECT ACCESS

Access Project assigned by Project Leader



Jane: Project Leader
Mike: Biologist
Pat: Biologist



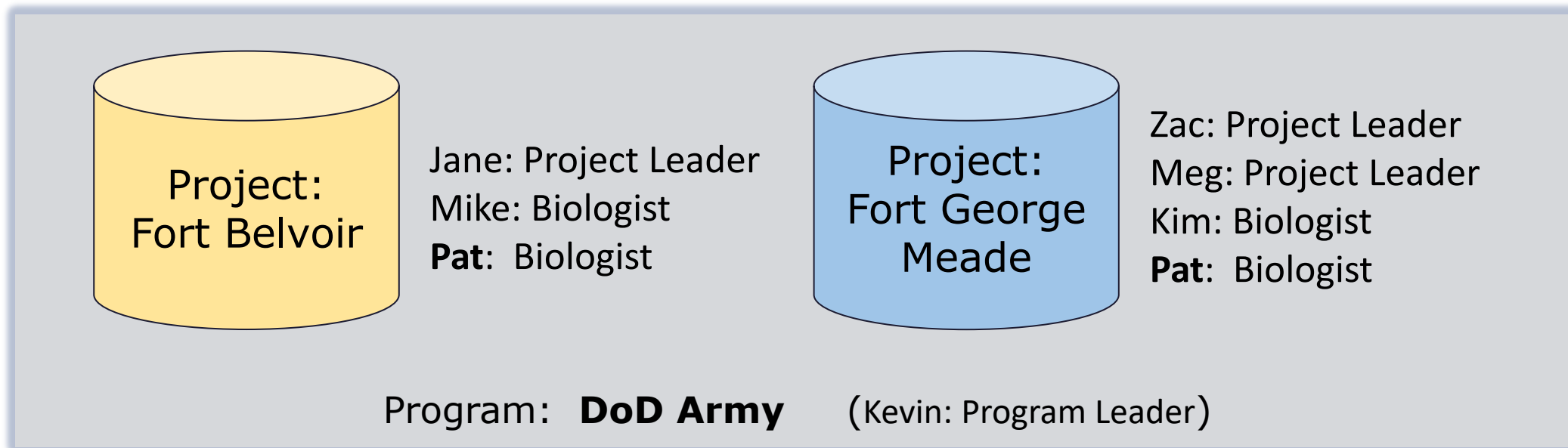
Zac: Project Leader
Meg: Project Leader
Kim: Biologist
Pat: Biologist



RESEARCHERS & PROJECT ACCESS

DoD will also have a Program Leader

(managed by Point Blue staff w/ guidance from DoD leadership)





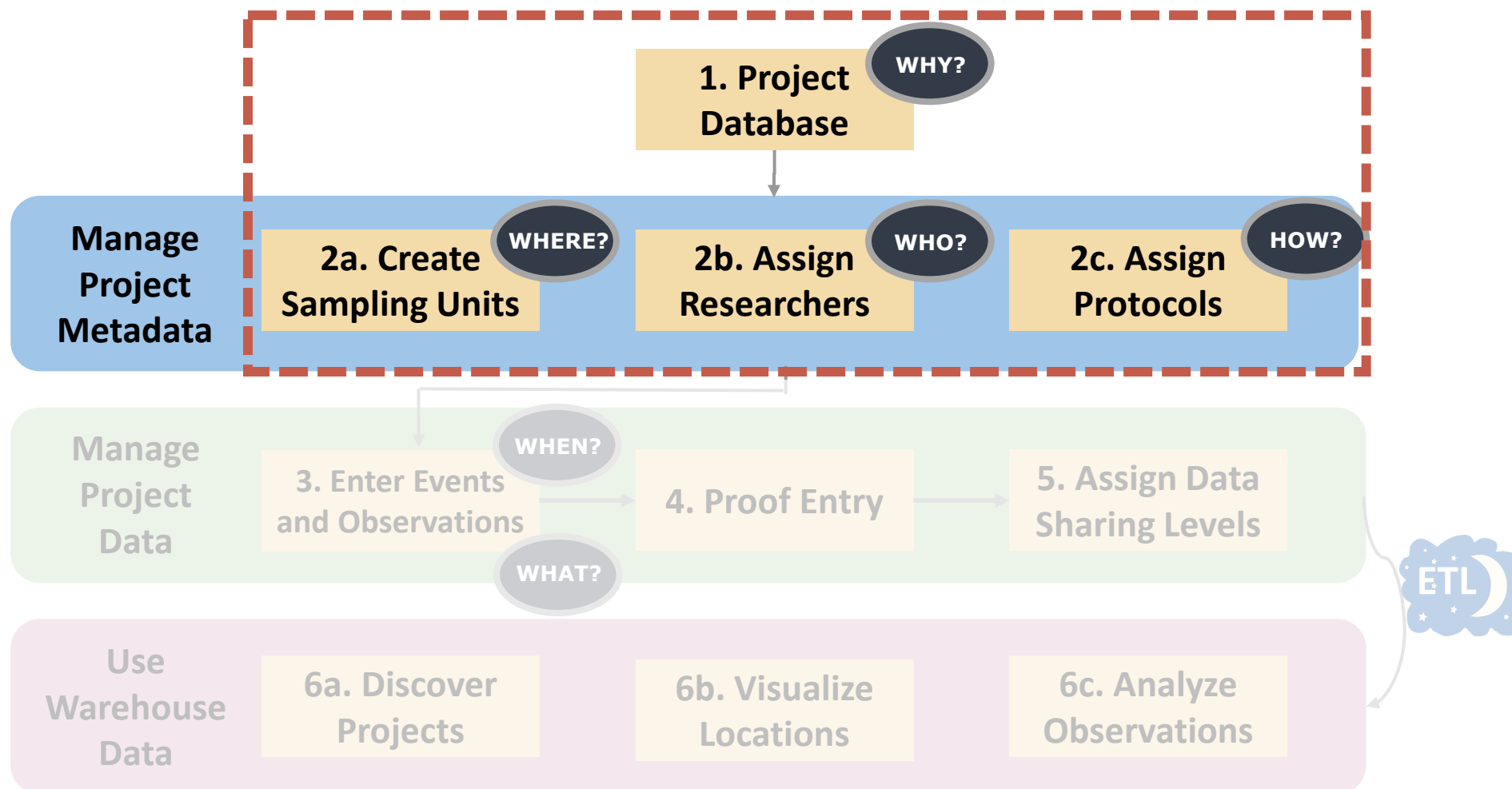
ADDING RESEARCHERS DEMONSTRATION

Tools:

- [Project Leader](#) for adding researchers to Project



QUESTIONS ON MANAGING PROJECT METADATA?



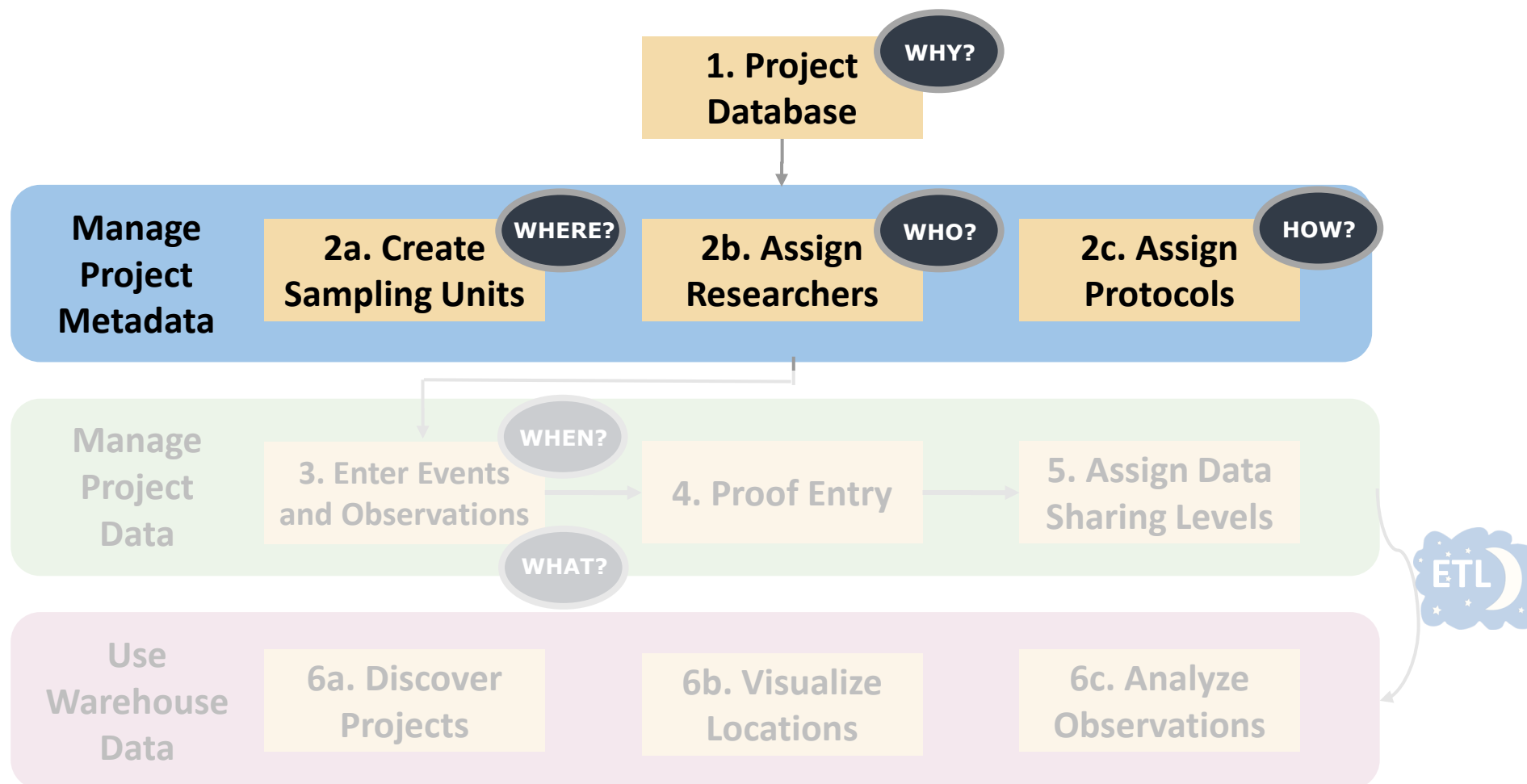


MANAGING OBSERVATION DATA



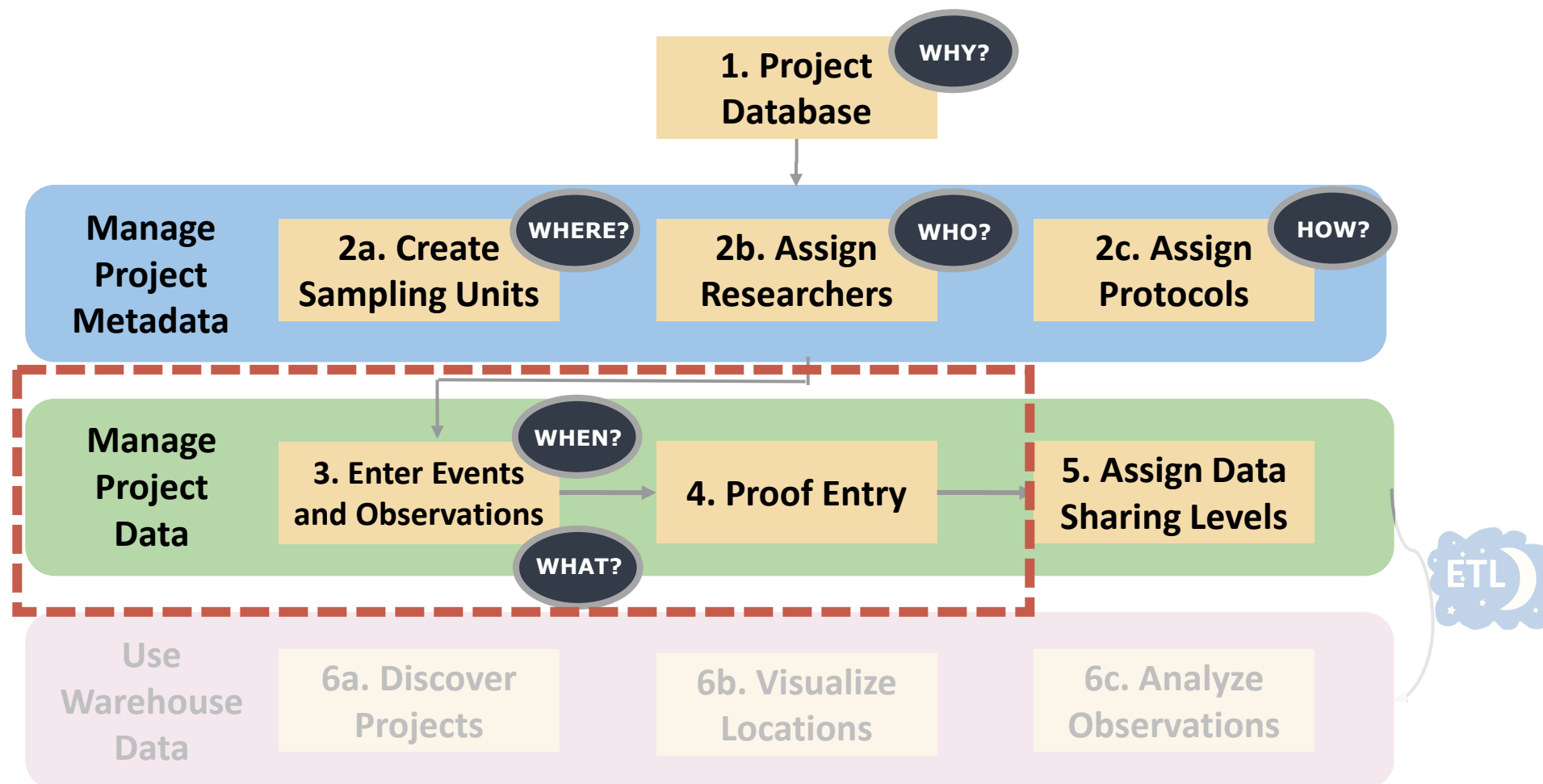


WORKFLOW FOR MANAGING A PROJECT





MANAGING A PROJECT: OBSERVATION DATA





SAMPLING EVENTS AND OBSERVATIONS

Event: survey at a Sampling Unit using a Protocol by Researcher at a specific date and time

Observation: one or more individuals of a single species detected during an Event

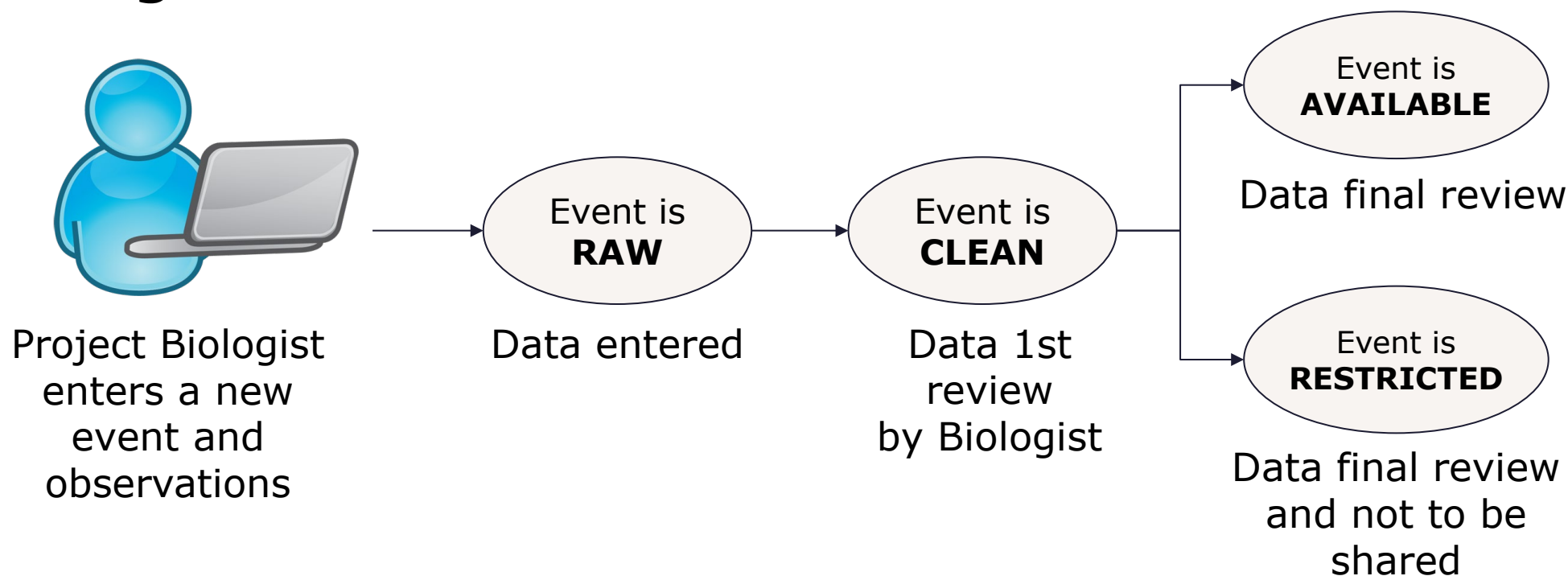
3. Enter Events
and Observations

WHEN?

WHAT?

REVIEW LEVELS FOR EACH EVENT

Steps to enter and review data in preparation for sharing



MANAGING OBSERVATION DATA THROUGH BIOLOGIST

- Data entry using Biologist
 - Best for direct entry into the system

[illegible]

Datasheet

Biologists

New Point Count Visit

What did you see during your visit?

Biologists Application

General

Enter the following information about your visit.

Quick Tips >>

Enter date of event

Visit

1

Data Sharing

RAW

Observer

Duran, Zoe

Web-based Form



MANAGING OBSERVATION DATA

EXERCISE 2: ENTER & PROOF POINT COUNT EVENT



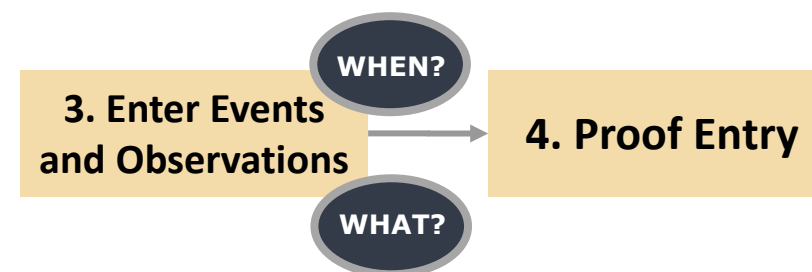


ENTER & PROOF POINT COUNT EVENT

EXERCISE 2

Purpose: Learn how to enter survey data and site conditions in Biologists and proof those data

Goal: Enter the sample data for the sampling unit you created in Exercise 1, save it, and proof those data

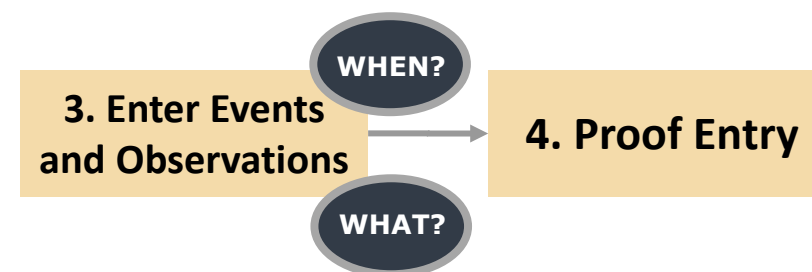




ENTER & PROOF POINT COUNT EVENT

EXERCISE 2 (*THINKING AHEAD*)

- Data marked Clean through proofing will load into the data warehouse, making it available to analysis tools
- As Project Leader, you will:
 - Grant users who collect data access to Biologists to enter and proof their own data
 - Add protocols to the project and manage sampling units

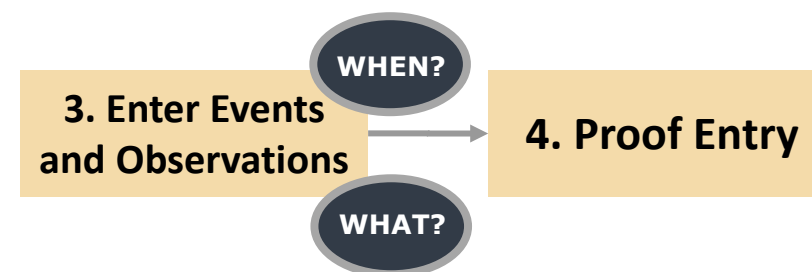




ENTER & PROOF POINT COUNT EVENT

EXERCISE 2

Exercise 2 instructions





BREAK

NEXT: DOWNLOADING OBSERVATIONS





DOWNLOAD POINT COUNT OBSERVATION DATA FROM PROJECT DEMONSTRATION

Tools:

- [Project Leaders](#) for download observations from our Project



BULK UPLOADING METADATA & OBSERVATION DATA INTO A PROJECT





BULK LOADING DATA

Loading spreadsheet data into the Project Database for loading Researchers, Sampling Units, and Observations

Observations: Uses definition file to describe how your spreadsheet maps into AKN



BATCH PROCESSING

Bulk Uploader v2 - Beta

Follow the steps below to load data in bulk into your project.

First, select the Project you want to bulk load into

FORT_HOOD - (IDOD_ARMY) Fort Hood

Next, select the Tool you want to use

Each tool independently does a task that helps you bulk load data into your project. Many of the tools process data in Batch, processing data in batches. Batch results can be found in the Batches tool.

[Add Researchers](#) [Add Sampling Units](#) [Add Observations](#) [Add Protocol](#) [Batch](#)

Results:

Batches for project FORT_HOOD

The table is showing all batches for this project. Click on a row to get the batch result details when Status is success or error.

[Save as CSV](#) [Refresh list](#)

ID	Utility	Status	Status Detail	Submitted	Completed	Actions
455	AddSamplingUnits	success	batch completed successfully	2021-08-10 20:07:48	0:01	⚡ ⬇
454	AddSamplingUnits	error	batch completed with errors	2021-08-10 20:06:33	0:00	⚡ ⬇
453	AddObservations	success	batch completed successfully	2021-08-09 19:25:10	1:03	⚡ ⬇
452	AddObservations	error	batch completed with errors	2021-08-09 19:24:41	0:04	⚡ ⬇
451	AddObservations	error	batch completed with errors	2021-08-09 19:23:19	0:09	⚡ ⬇
450	AddObservations	error	batch completed with errors	2021-08-09 19:18:37	0:04	⚡ ⬇
449	AddObservations	error	batch completed with errors	2021-08-09 19:03:35	0:03	⚡ ⬇
448	AddObservations	error	batch completed with errors	2021-08-09 19:00:23	0:00	⚡ ⬇

Results:

Errors:
Error line 744: Value not allowed for weatherwinddirectioncardinal: East Northeast
Error line 1055: The count field is required.

Add Observations Summary: CSV Rows Reviewed: 1054

Batch ID 451
AddObservations
plimptonc@gmail.com

Results:

Add Observations Summary: CSV Rows Reviewed: 1054, New PointCount Events created: 217, New PointCount Observations created: 1045, New PointCount SiteConditionEvents created: 217, New PointCount SiteConditionProperties created: 1207



BULK UPLOADING PROJECT DATA

EXERCISE 3: BULK UPLOADING SAMPLING UNITS





BULK UPLOADING SAMPLING UNITS

EXERCISE 3

Purpose: Build on exercise 1 using the Bulk Upload tool to create multiple sampling units at once for a given survey type

Goal: Bulk upload a new point onto your existing transect and add a new transect with three points



BULK UPLOADING SAMPLING UNITS

EXERCISE 3 (*THINKING AHEAD*)

- The Bulk Uploader tool is useful when you have many sampling units to add to your project.
- The Bulk Uploader tool can add sampling units to an existing hierarchy or create an entirely new hierarchy (*remember our discussion thinking about Study Areas!*)
- The Bulk Uploader tool can also add Researchers or Observation data to your project
 - Note: we will not be covering those use cases today but can assist in office hours



BULK UPLOADING SAMPLING UNITS

EXERCISE 3

Exercise 3 instructions

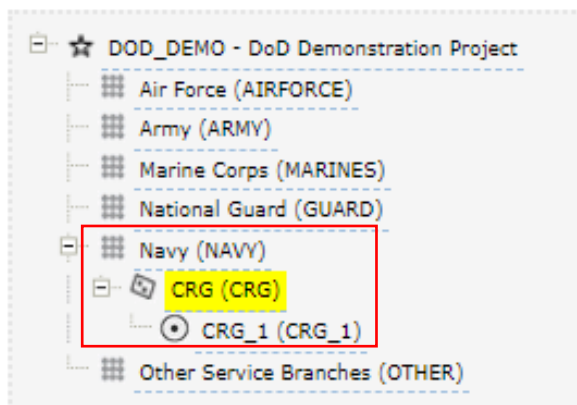


BULK UPLOADING SAMPLING UNITS

EXERCISE 3

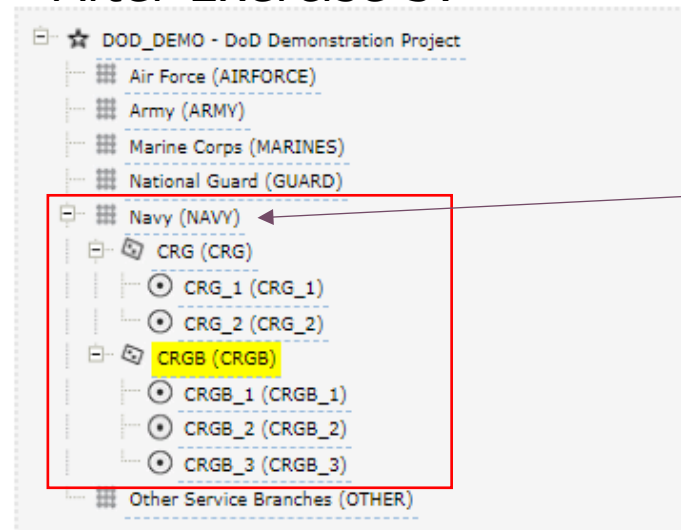
Tip: Go back to Project Leader (Sampling Units-> Create and Manage) and take a look at the sampling unit you already created in Exercise 1. In this exercise, we'll create a new point under the existing transect, plus add a new transect with new points.

After Exercise 1:



Study Area: Navy
Point Count Transect: CRG
Point Count Point: CRG_1

After Exercise 3:



Make sure you are using the same Study Area (your service branch) for Exercise 3!

In this example, the Study Area Name is Navy and the Study Area Short Name is NAVY

2a. Create
Sampling Units

WHERE?



LONG NAME VS SHORT NAME: WHAT'S THE DIFFERENCE?

- Every sampling unit has a **Short Name** and a **Long Name**
 - Short Names and Long Names can be the same
- **Short Name** + **Long Name** combinations must be unique within an AKN Project
 - e.g., transect names and point count names **CAN NOT BE THE SAME**
- **Short Names** will be seen throughout the tools and in your data download
 - It is the shorthand name for each sampling unit
- **Short Names** are limited to 12 characters
- **Long Names** can be longer and more descriptive, if useful



LONG NAME VS SHORT NAME: WHAT'S THE DIFFERENCE?

EXAMPLES (any of these would be correct):

Point Count Transect Long Name	Point Count Transect Short Name
East Training Area	ETA
East Training Area 1	ETA-1
ETA	ETA
ETA-1	ETA-1



EXAMPLE: FORT CARSON, CO

FORT_CARSON - [DOD_ARMY] Fort Carson Point Counts
[open new project](#)

[Give Us Your Feedback](#)
[Preferences](#)
How Do I...
[... create a new Transect of points from a GPS-U file?](#)
[... handle the message "Error on Add: Duplicate entry ..."?](#)
[... update points in a transect using a GPS-U file??](#)

Click on the Sampling Unit or Project you want to select (it will highlight yellow). Open any part of the tree to get to more detail. Hover on a tree node and the tooltip will tell you what type of feature it is.

FORT_CARSON - [DOD_ARMY] Fort Carson Point Counts

- Fort Carson Marshbird (FC_MB)
 - Cottonwood Spring (MB_COTTON)
 - Frog Pond (MB_FROG)
 - Haymes Reservoir (MB_HAYMES)
 - Infantry Creek East (MB_INFEAST)
 - Infantry Creek West (MB_INFWEST)
 - K Ditch (MB_KDITCH)
 - Lytle Spring (MB_LYTLE)
 - Middle School Area (MB_MIDSCHOOL)
 - MSR 1 / Range 113 (MB_RG113)
 - North B Ditch (MB_BDITCH)
 - Northside Reservoir (MB_NORTHSIDE)
 - Range 04 (MB_RG04)
 - Range 08 (MB_RG08)
 - Training Area 05 / Rock Creek (MB_TA05)
 - Training Area 08 / AHA (MB_TA08)
 - Womack Reservoir (MB_WOMACK)
- Fort Carson Point Count (CARSON_PC)
 - Bird Farm (Grassland) (GB_BF)
 - TA 08 (Grassland) (GB_TA08)
 - TA 10 (Grassland) (GB_TA10)
 - TA 15 (Grassland) (GB_TA15)
 - TA 24 (Grassland) (GB_TA24)
 - TA 28 (PJ) (PJ_TA28)
 - TA 29 (PJ) (PJ_TA29)
 - TA 30 (Grassland) (GB_TA30)
 - TA 30 (PJ) (PJ_TA30)
 - TA 31 (Grassland) (GB_TA31)

Add Sampling Units under the highlighted feature with:

- online form
- GPS-U file
- Waypoint Plus file
- KML file
- SHP file

Update Sampling Unit geometry under the highlighted feature using:

- GPS-U file
- Waypoint Plus file
- KML file
- SHP file

Manage the highlighted feature:

- edit
- move in hierarchy
- delete

Project Protocols

[open new project](#)
FORT_CARSON - [DOD_ARMY] Fort Carson Point Counts

[add one](#)

Print Copy table to: CSV HTML DOC PDF

Protocol Id ?	Protocol Name ?	Protocol Type ?	
ARSE_PIIA	Area search survey standard protocol from the PIIA Working Group	AreaSearch	✗
BL_S_V_BI	BLRA,SORA,VIRA,BLTA	SecretiveMarshBirdCount	✗
IMBCR_VRPC	Bird Conservancy of the Rockies IMBCR 6 min count	PointCount	✗
SiteConditions_FOR	Site conditions temperature, wind, sky, noise	SiteConditions	✗
SiteConditions_PIIA	Site Conditions PIIA protocol developed by the PIIA Working Group	SiteConditions	✗
SPCH_LOCATION	Species checklist with coordinates	AreaSearch	✗
VRPC__10min_2TB	Variable radius point count with detection cues lasting 10 minutes with 2 timebin and sex	PointCount	✗



OFFICE HOURS

Discuss bulk loading and other issues regarding your observation data

For future virtual office hours, sign up here:

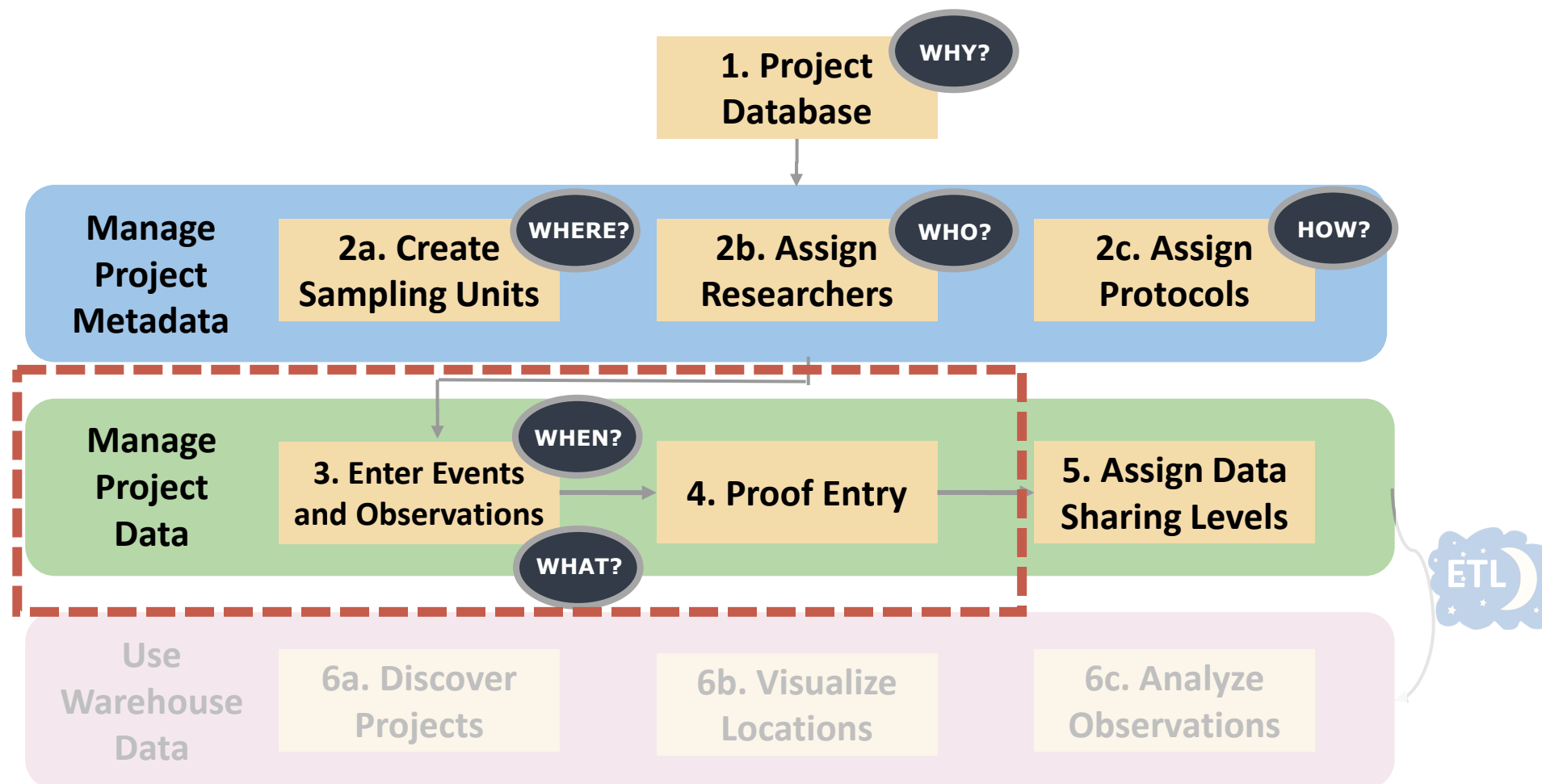
<https://www.dodakn.org/office-hours-booking-page/>

- Next appointment dates: May 27 & 29





ANY QUESTIONS ON MANAGING PROJECT DATA?





PLUSES AND DELTAS

DAY 1 WRAP-UP





AVIAN
KNOWLEDGE NETWORK

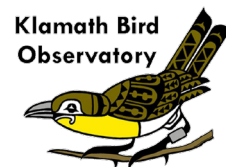
DoD AND THE AKN: WHO, WHAT, WHERE, WHEN, WHY, AND HOW

DoD AKN Virtual Training (NMFWA Makeup)
20 and 22 May 2025
Virtual

Sam Veloz
Dianne Miller

Elizabeth Neipert
Zoe Duran

John Alexander
Caitlyn Gillespie



DoD AKN Training – 20 & 22 May 2025, Virtual (2025 NMFWA Makeup)

pointblue.github.io/dod_workshop

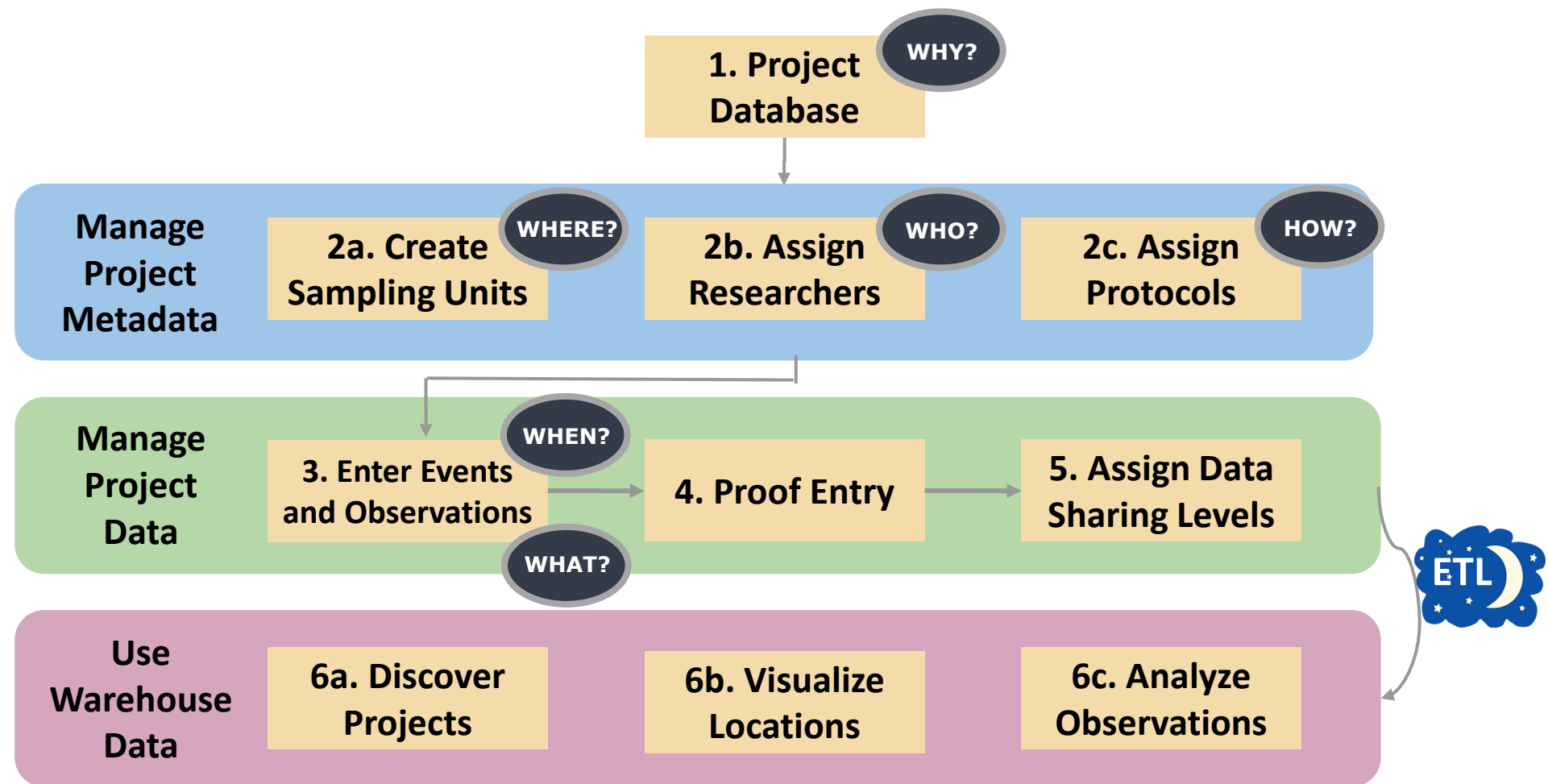
Hooded Warbler, South Texas; Photo: Paul Block



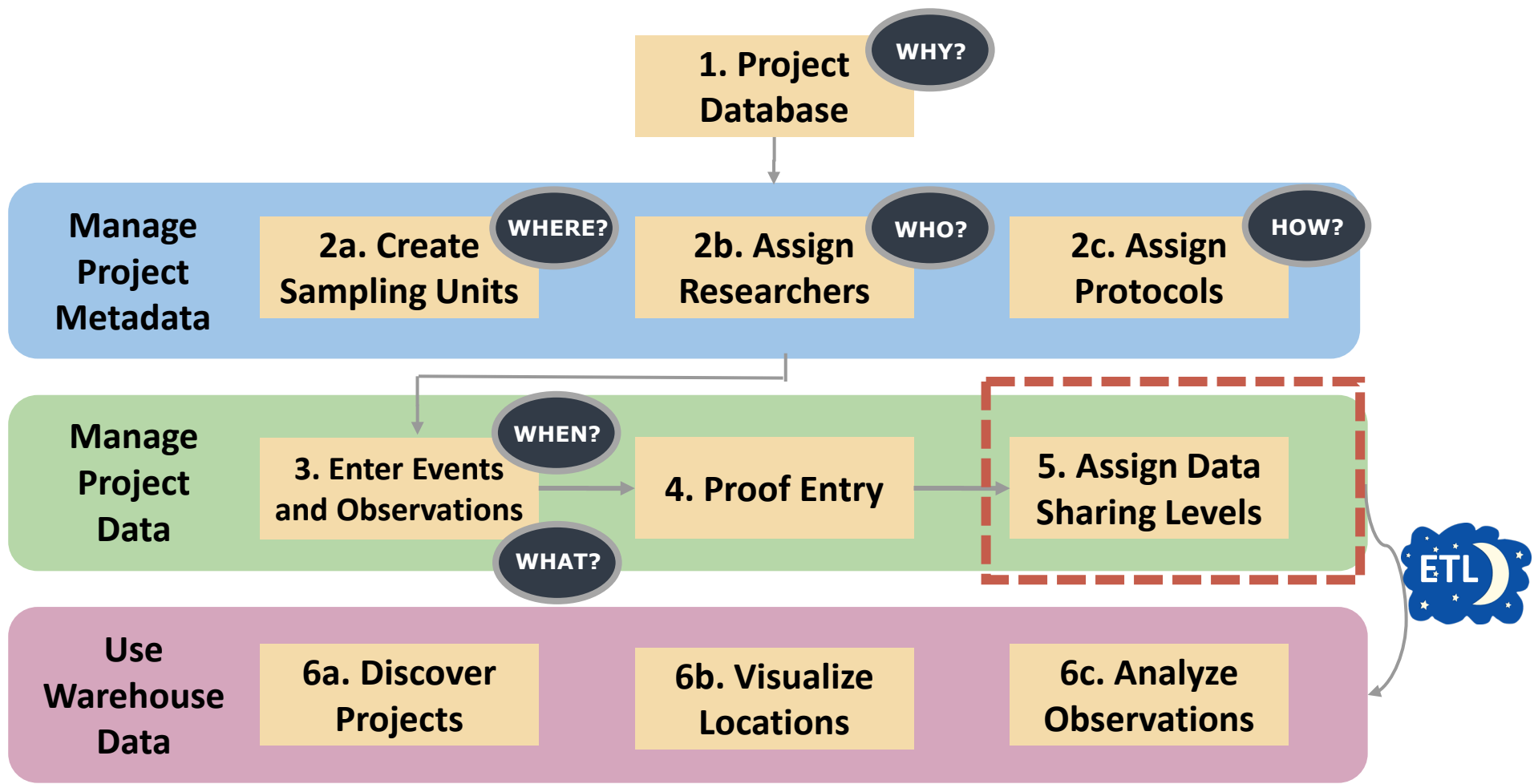
AKN DATA SHARING LEVELS



WORKFLOW FOR MANAGING A PROJECT



MANAGING A PROJECT: DATA SHARING LEVELS



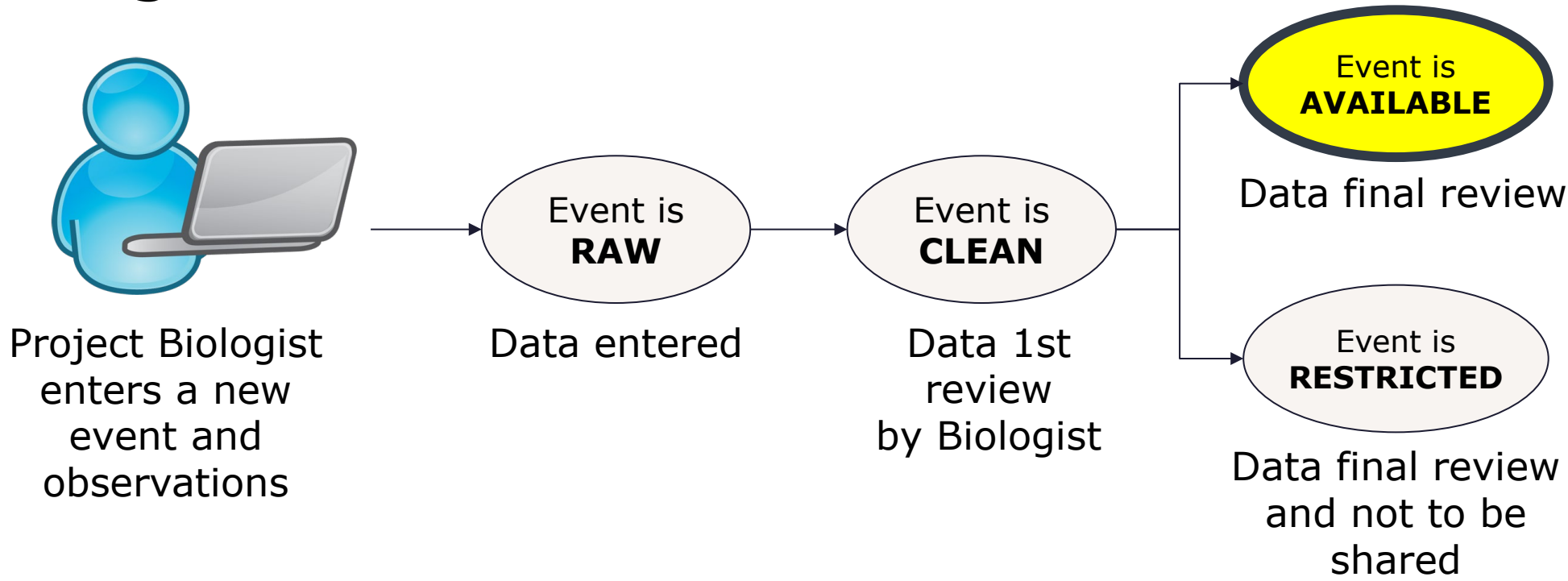
DATA SHARING LEVELS

Defines how visible each observation is for querying, summarizing, visualizing, and analyzing.

Controlled by the Project Leader within each Project

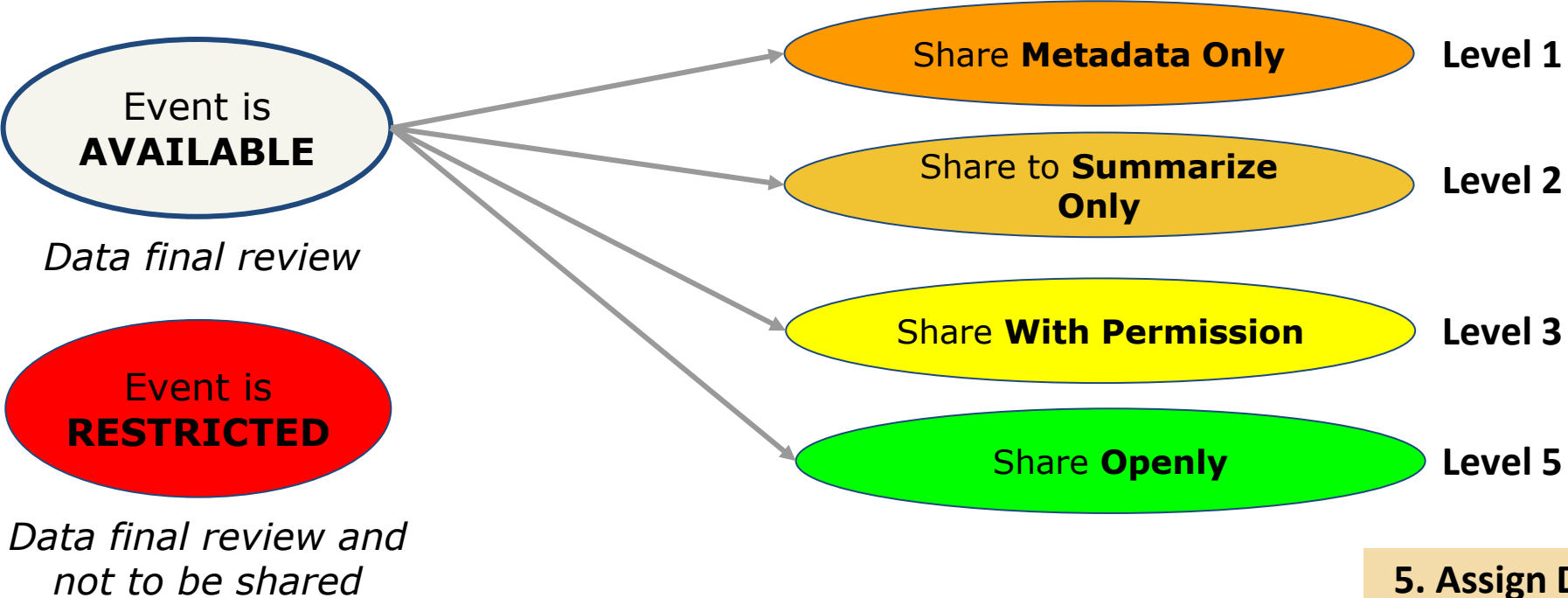
REVIEW LEVELS FOR EACH EVENT

Steps to enter and review data in preparation for sharing



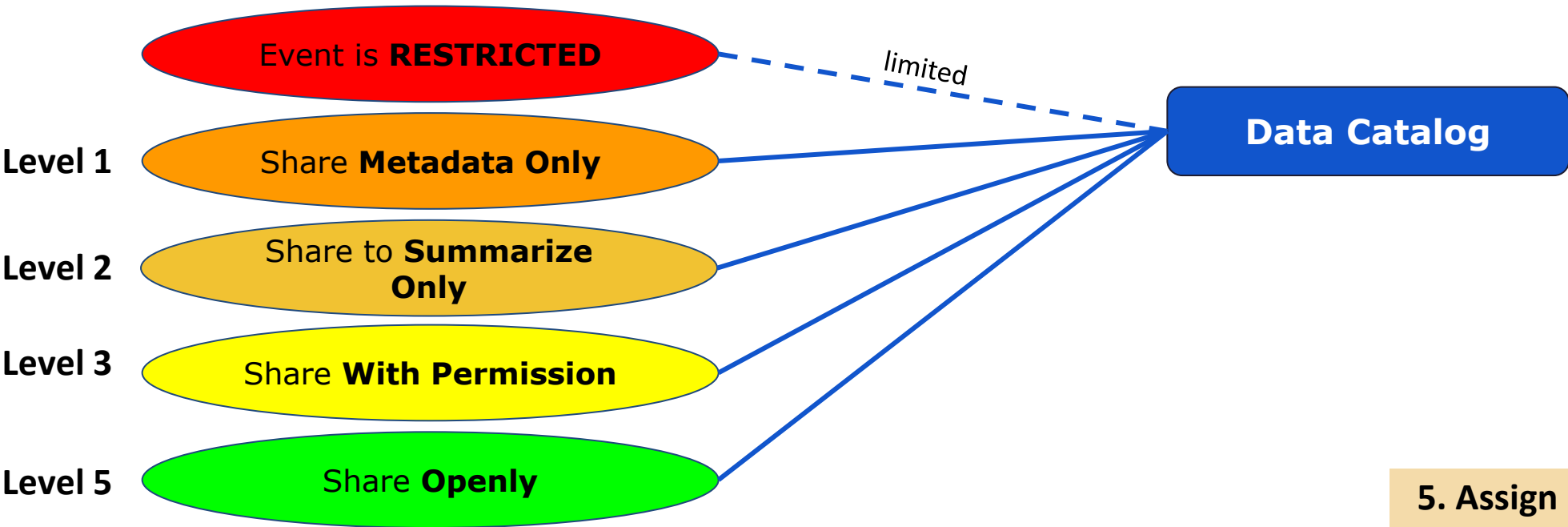
DATA SHARING LEVELS FOR EACH EVENT

Choices informs the Point Blue Science Cloud tools of your intentions.



DATA SHARING AND TOOL ACCESS

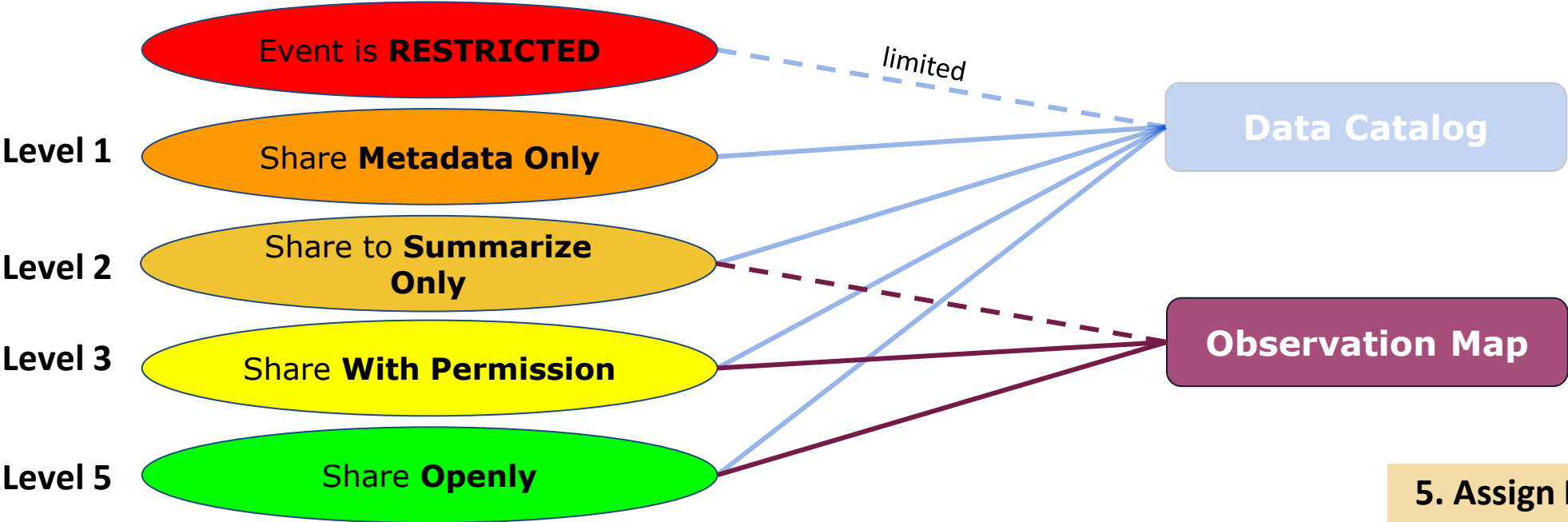
Choices informs the Point Blue Science Cloud tools of your intentions.



5. Assign Data
Sharing Levels

DATA SHARING AND TOOL ACCESS

Choices informs the Point Blue Science Cloud tools of your intentions.



5. Assign Data
Sharing Levels



SETTING DATA SHARING LEVELS DEMONSTRATION

Tools:

- Project Leaders to set/edit sharing levels



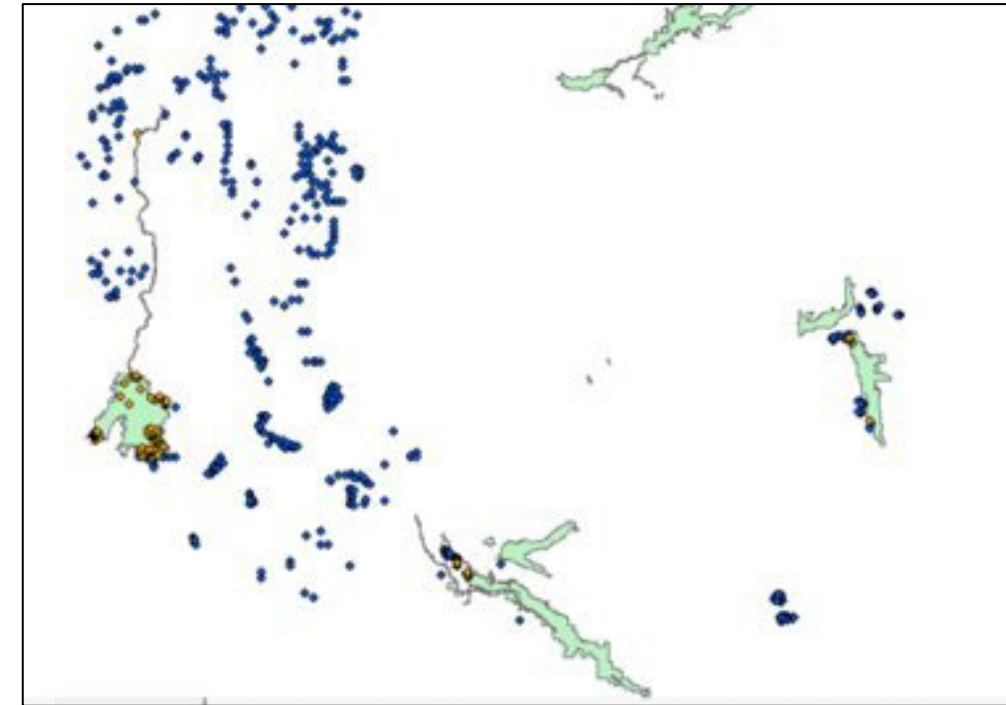
DATA SHARING LEVEL MOTIVATION

- Organizational Policy
- Federal / State Law
- Research and Right of First Publication
- Threatened / Endangered Species
- Private Landowner Agreements
- Contribute to AKN Science
- Partnership / Collaboration Development



EXAMPLE: USACE-WILLAMETTE VALLEY PROJECT, OR

- New biologist took DoD AKN training at NMFWA
- Worked with DoD AKN Team to ID data within boundary
- Data was both USACE and partner data
- Created USACE WVP within USACE enterprise
- Gained access to USACE-owned data
- Reaching out to partners about sharing data within boundary

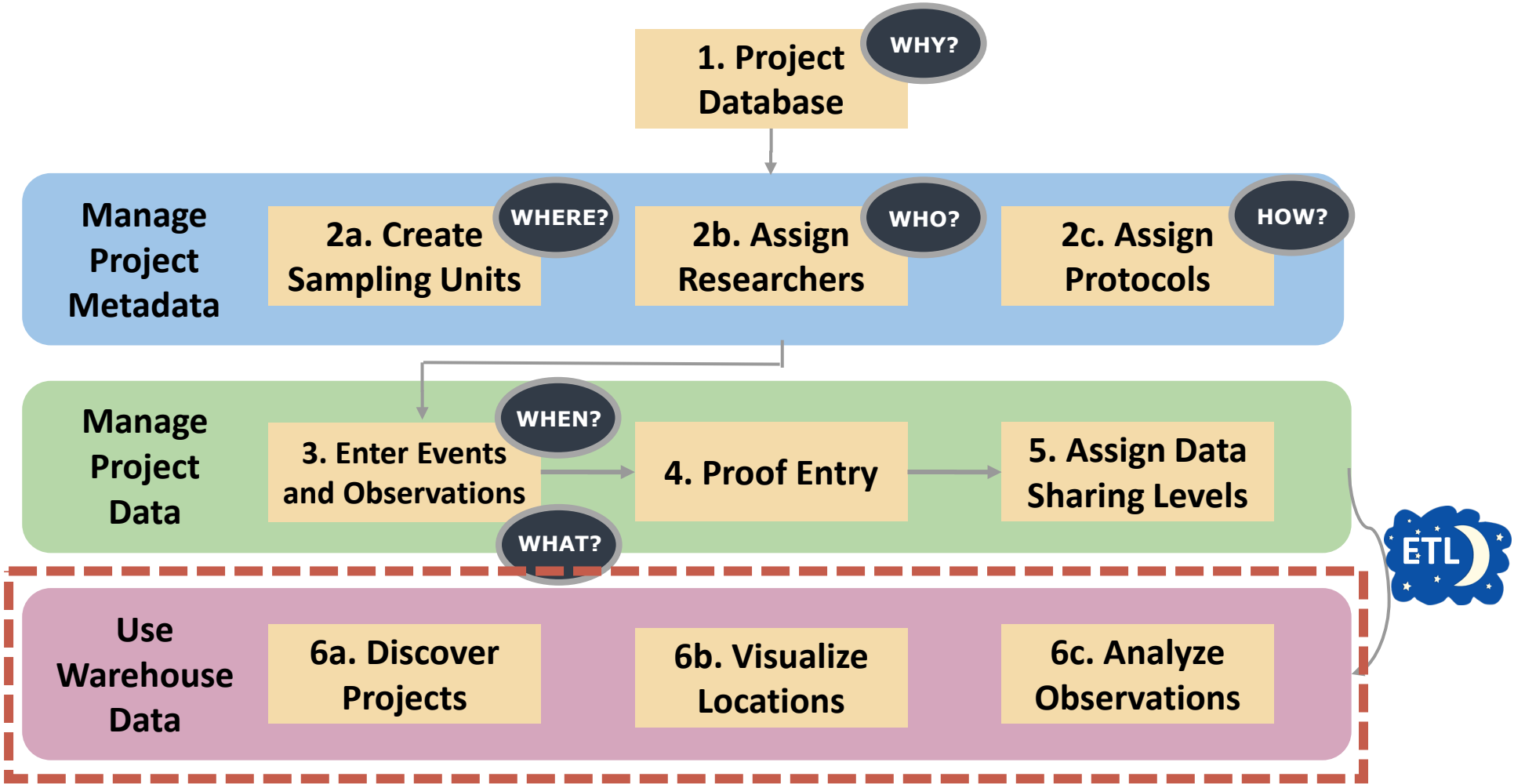




AKN WAREHOUSE DATA 101



MANAGING A PROJECT: DATA WAREHOUSES



DATA WAREHOUSES

Database with homogenized copy of observation data, organized by sampling method for cross-project query and analysis

Project data input today shows up automatically in the warehouse the day after you enter it



Snowy Egret, Jacksonville, FL; Photo: Paul Block

PROJECT DATA VS. WAREHOUSE DATA

Study Area	Transect	Point	Protocol	Visit	Date	Start Time	End Time	Time Bin	Time Bin	Count	Spp	Common Name	Scientific Name	Detection	Distance B	Distance B	Point Note	Obs	Researcher	Data Status
LITTLERIVER	COMP_5	164	3_5_10m2	1	6/3/2019	8:01:00	8:11:00	3	0_3min	1	PIWA	Pine Warbler	Setophaga pinus	NR	G25	25 to 50	Light sprinkle, light rain		Arbour, David	AVAILABLE Level 5
LITTLERIVER	COMP_5	164	3_5_10m2	1	6/3/2019	8:01:00	8:11:00	3	0_3min	1	GCFL	Great Crested Flycat	Myiarchus crinitu	NR	G50	50 to 100	Light sprinkle, light rain		Arbour, David	AVAILABLE Level 5
LITTLERIVER	COMP_5	164	3_5_10m2	1	6/3/2019	8:01:00	8:11:00	3	0_3min	1	KEWA	Kentucky Warbler	Geothlypis formc	NR	G50	50 to 100	Light sprinkle, light rain		Arbour, David	AVAILABLE Level 5
LITTLERIVER	COMP_5	164	3_5_10m2	1	6/3/2019	8:01:00	8:11:00	10	5_10min	1	BHCO	Brown-headed Cow	Molothrus ater	NR	G50	50 to 100	Light sprinkle, light rain		Arbour, David	AVAILABLE Level 5
Project	Location	Protocol	Date	Time	HabitatPlot	HabitatPlot	HabitatPlot	HabitatPlot	HabitatPlot	HabitatPlot										
					HabitatPlotId	Vine	Cane	Overstory	Midstory	Understory										
LITTLERIVERNWR	164	FWS_PC_HAB_LWRMISS	6/3/2019	8:01:00	164	3	1	3	3	4	Arbour, David									

Project Database Version

Warehouse Version

GlobalUniqueIdentifier	ProjectCode	ProjectName	LocalityID	StudyArea	Transect	TransectName	Point	SamplingU	ParentSam	Sam
URN:catalog:PRBO:LITTLERIVERNWR.300600.PointCount.3_5_10m25_50_100MFLyByTm.329406.1	LITTLERIVERNWR	Little River NWR	LITTLERIVERNWR:COMP_5	Little River NWR	COMP_5	Compartment_5	164	300600	348115	Point
URN:catalog:PRBO:LITTLERIVERNWR.300600.PointCount.3_5_10m25_50_100MFLyByTm.329406.2	LITTLERIVERNWR	Little River NWR	LITTLERIVERNWR:COMP_5	Little River NWR	COMP_5	Compartment_5	164	300600	348115	Point
URN:catalog:PRBO:LITTLERIVERNWR.300600.PointCount.3_5_10m25_50_100MFLyByTm.329406.3	LITTLERIVERNWR	Little River NWR	LITTLERIVERNWR:COMP_5	Little River NWR	COMP_5	Compartment_5	164	300600	348115	Point
URN:catalog:PRBO:LITTLERIVERNWR.300600.PointCount.3_5_10m25_50_100MFLyByTm.329406.4	LITTLERIVERNWR	Little River NWR	LITTLERIVERNWR:COMP_5	Little River NWR	COMP_5	Compartment_5	164	300600	348115	Point

DecimalLatitt	DecimalLon	Visit	ProtocolCode	Observatic	Year Collec	Month	DayC	JulianDa	JulianDayV	P Time	Collec	ScientificN	CommonN	SpeciesCor	Phylogent	DistanceFr	Flyc I	I Detectic E	Observa	NoObse	RecordPermissions
33.9699705	-94.70262	1	3_5_10m25_50_100MFLyByTm	6/3/2019	2019	6	3	154	75	8:01:00	DA	Setophaga	Pine Warb	PIWA	1696	37.5	NR		1	0	AVAILABLE LEVEL 5
33.9699705	-94.70262	1	3_5_10m25_50_100MFLyByTm	6/3/2019	2019	6	3	154	75	8:01:00	DA	Myiarchus	Great Cres	GCFL	1254	75	NR		1	0	AVAILABLE LEVEL 5
33.9699705	-94.70262	1	3_5_10m25_50_100MFLyByTm	6/3/2019	2019	6	3	154	75	8:01:00	DA	Geothlypis	Kentucky	KEWA	1718	75	NR		1	0	AVAILABLE LEVEL 5
33.9699705	-94.70262	1	3_5_10m25_50_100MFLyByTm	6/3/2019	2019	6	3	154	75	8:06:00	DA	Molothrus	Brown-he	BHCO	2015	75	NR		1	0	AVAILABLE LEVEL 5

PROJECT DATA VS. WAREHOUSE DATA

Point Count Data

Same: Species, Count, Protocol, Locations, Detection Cues, Observation Time, Data Sharing Levels

Differences: Binned Distance averaged, Comments missing, no Site Conditions, Observer Names to Initials, no Time Bin



CASE STUDY:

USFS REGION 8, MULTI-PARTNER

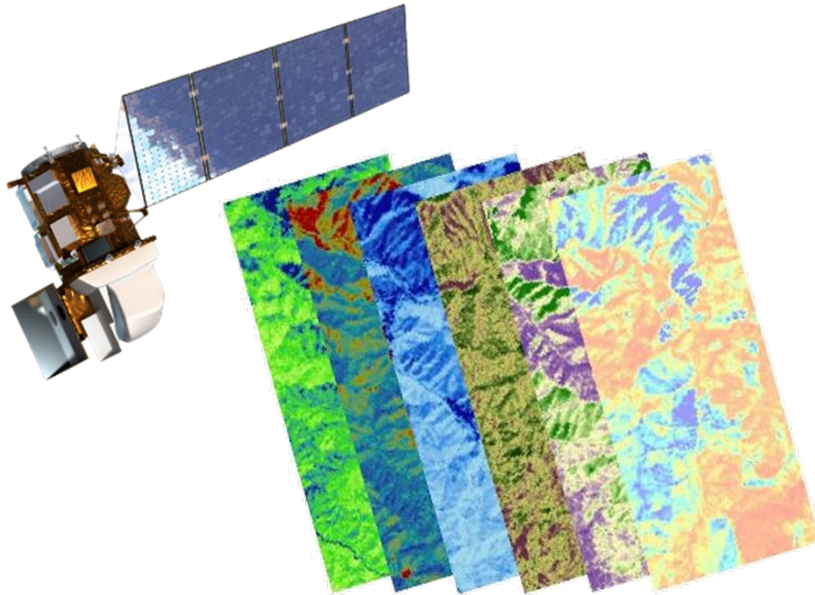


- 30-year dataset at-risk -- 13,664 sampling locations
- 1,121,654 point count observation records saved (!!)
- 364,574 site condition records archive
- Innovated -- XML scripts to capture all data field
- Data has been uploaded and a data entry system has been created



CASE STUDY: SPECIES-CENTERED HABITAT MODELING

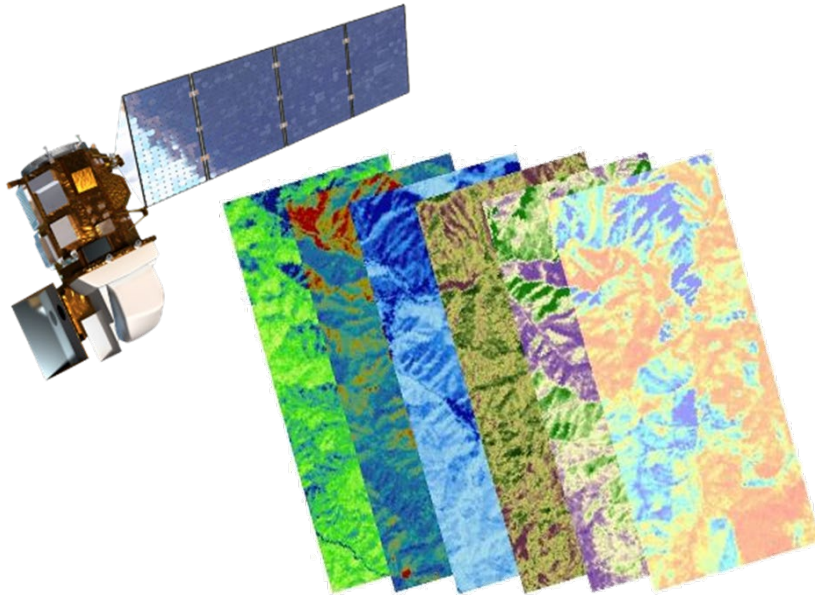
(Shirley et al 2013, Betts et al 2014,
Halstead et al 2019)





CASE STUDY: SPECIES-CENTERED HABITAT MODELING

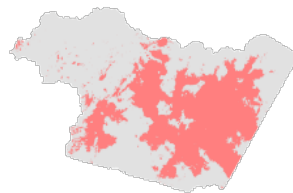
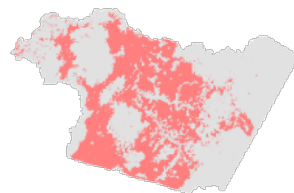
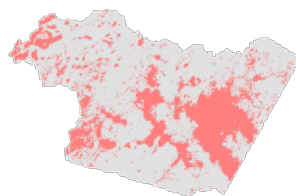
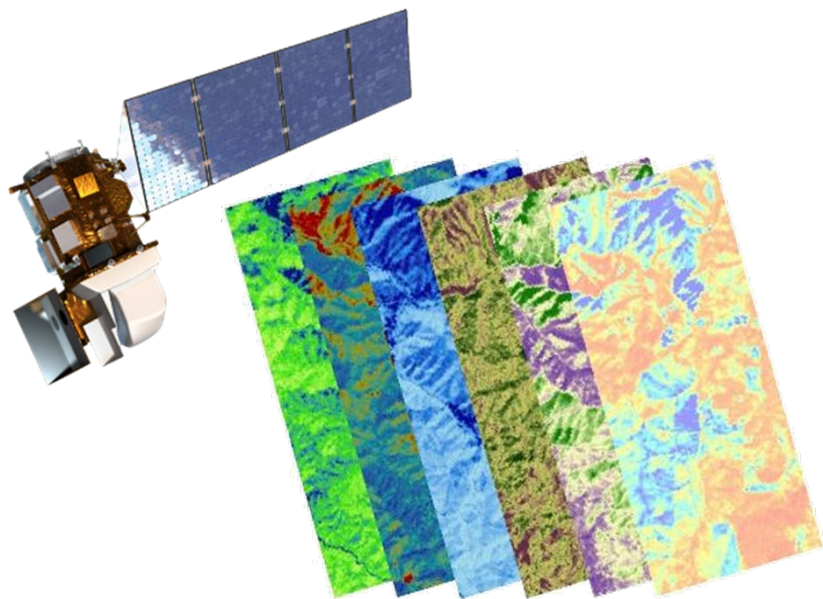
(Shirley et al 2013, Betts et al 2014,
Halstead et al 2019)





CASE STUDY: SPECIES-CENTERED HABITAT MODELING

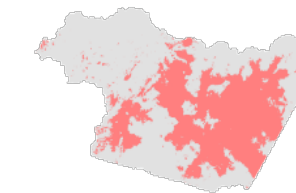
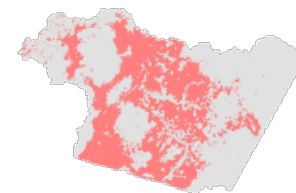
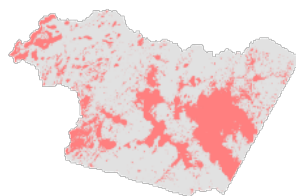
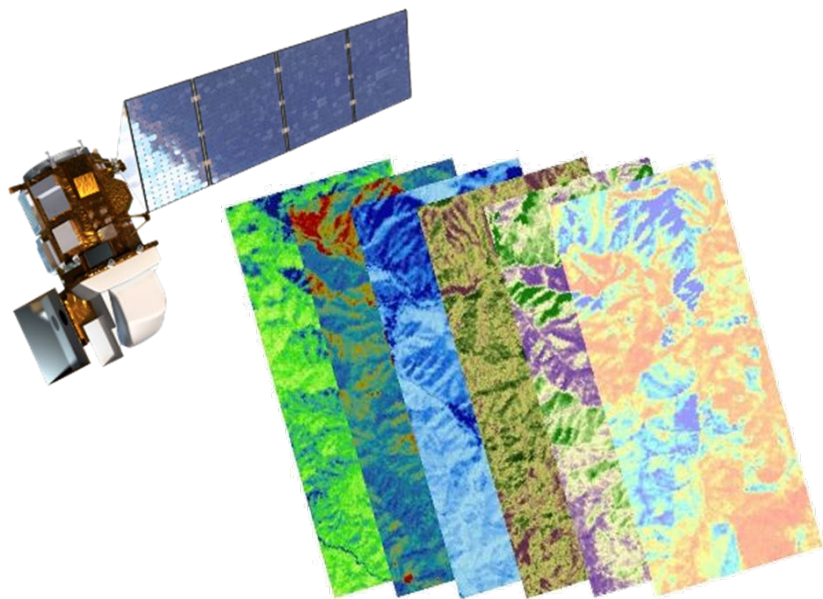
(Shirley et al 2013, Betts et al 2014,
Halstead et al 2019)





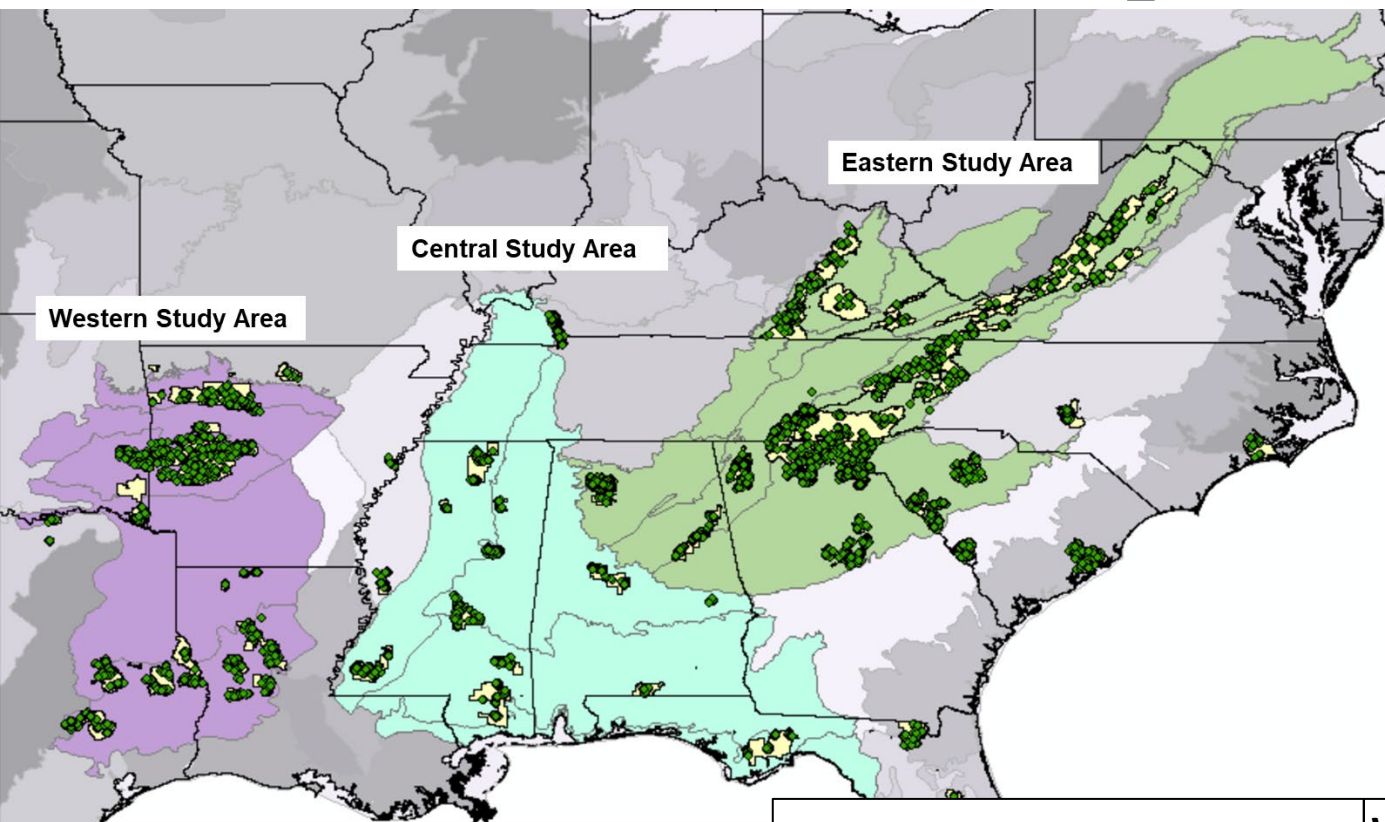
CASE STUDY: SPECIES-CENTERED HABITAT MODELING

(Shirley et al 2013, Betts et al 2014,
Halstead et al 2019)



Compared to Land Cover Derived Models:

- High prediction ability
- Wider temporal range
- Avoid uncertainty:
 - misclassification of habitats
 - omission of fine-scale features
 - subtle changes in vegetation

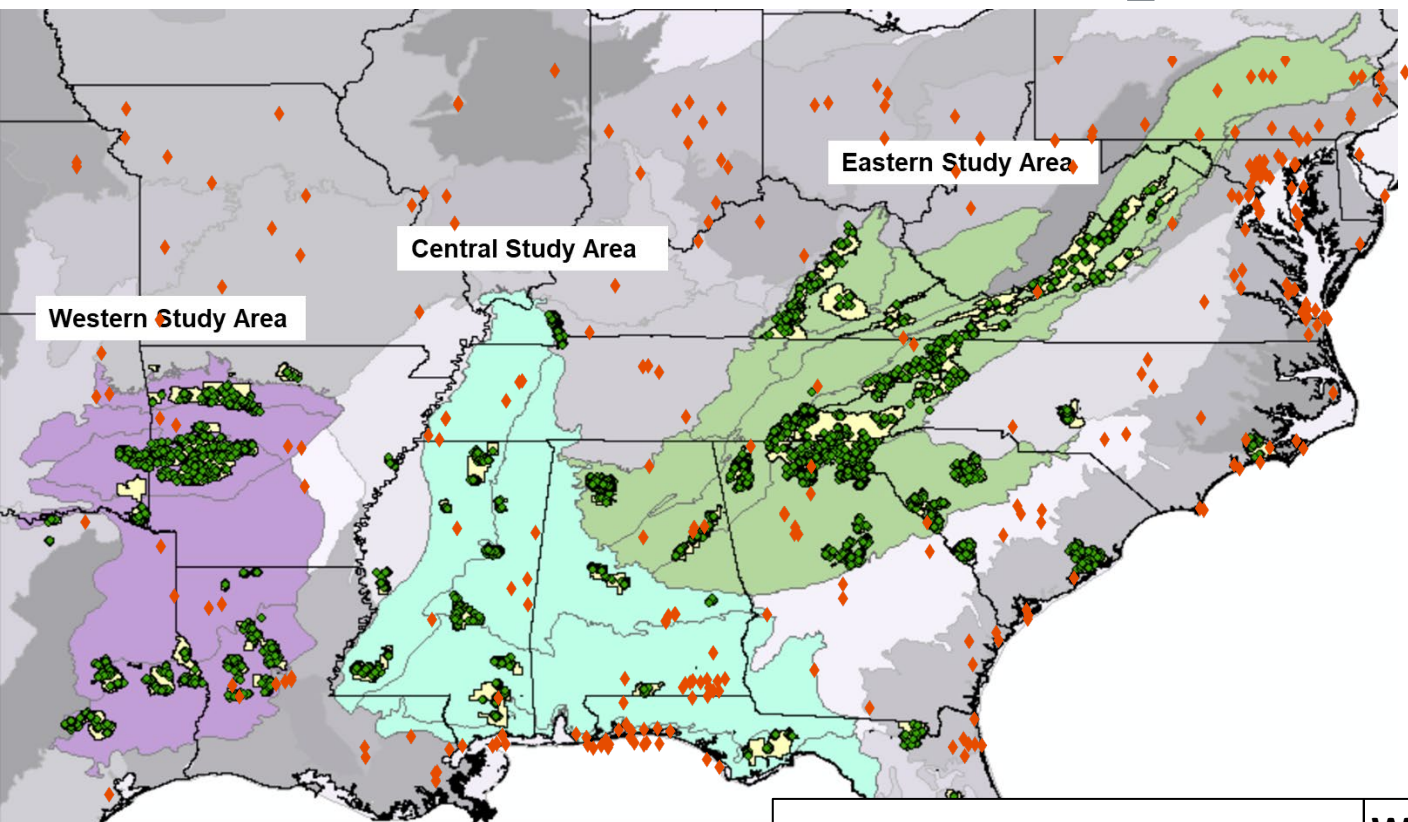


CASE STUDY:

SPECIES-CENTERED HABITAT MODELING

(Shirley et al 2013, Betts et al 2014,
Halstead et al 2019)

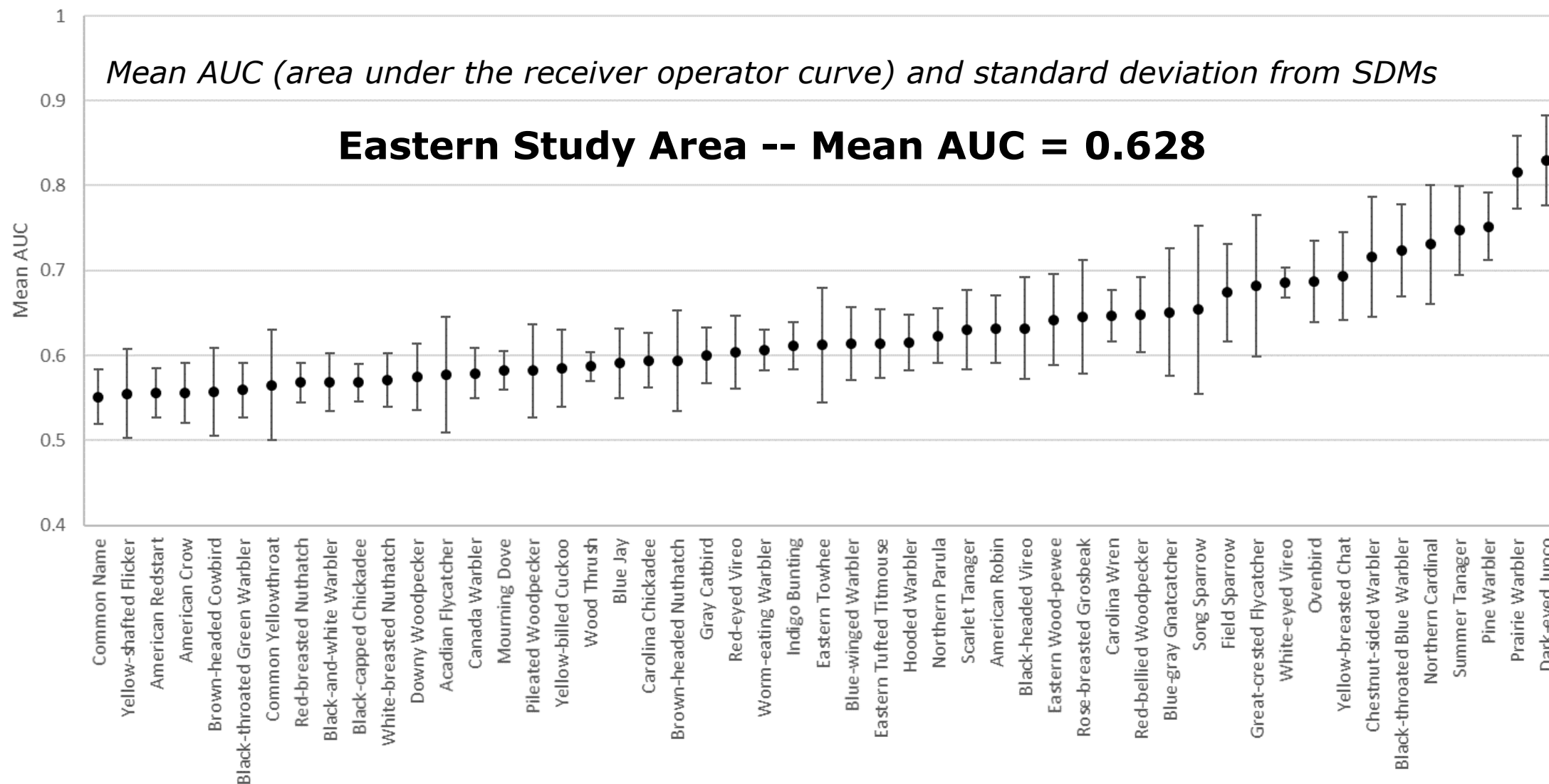
	Western Study Area	Central Study Area	Eastern Study Area
Number of final survey points	963	1068	3181
Number of species modeled	48	52	66
Number of species $\geq$ AUC 0.55	35	36	51
Mean AUC for final models	0.628	0.630	0.628
St. dev. AUC for final models	0.054	0.073	0.067


DoD Installation

CASE STUDY: SPECIES-CENTERED HABITAT MODELING

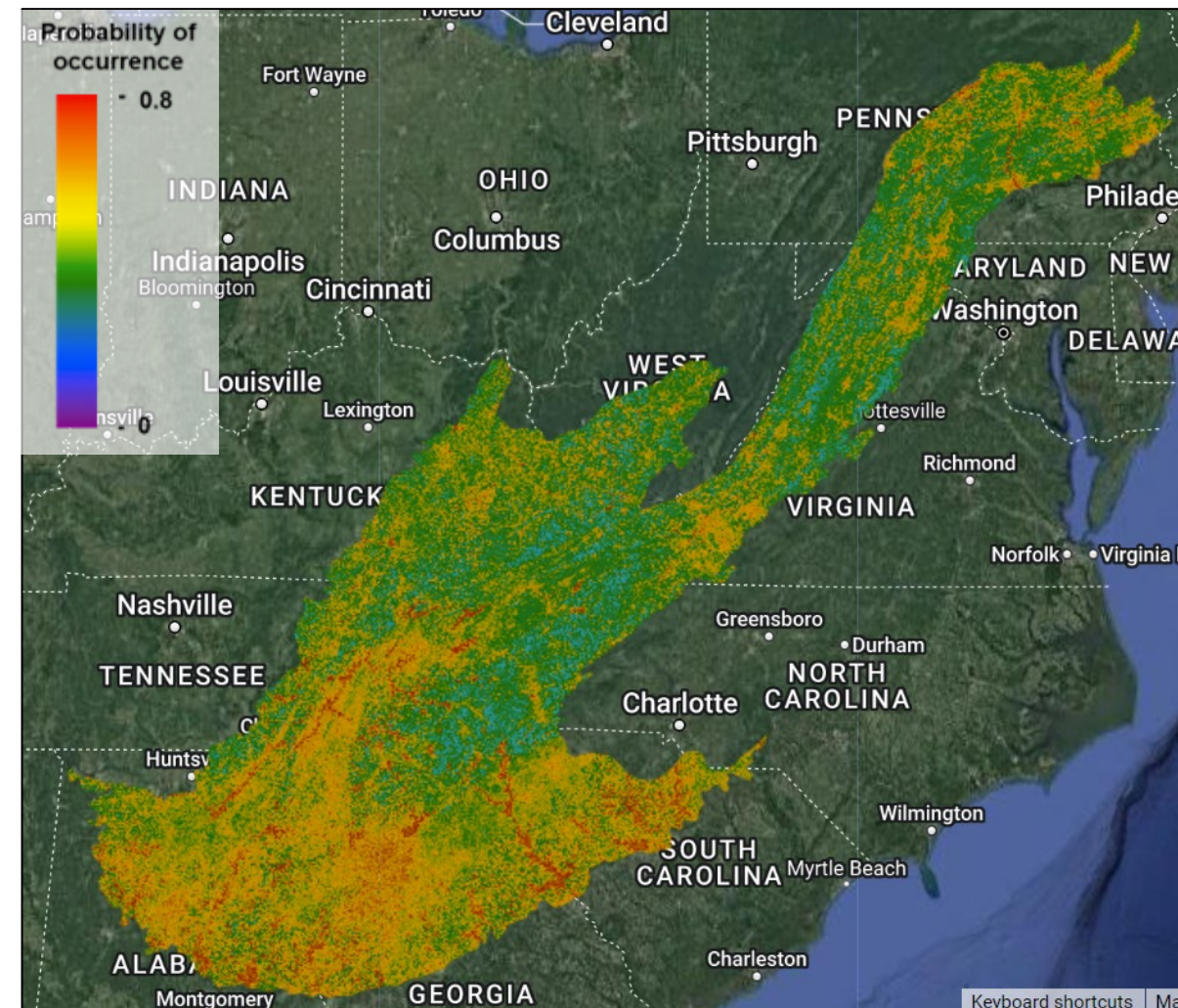
(Shirley et al 2013, Betts et al 2014,
Halstead et al 2019)

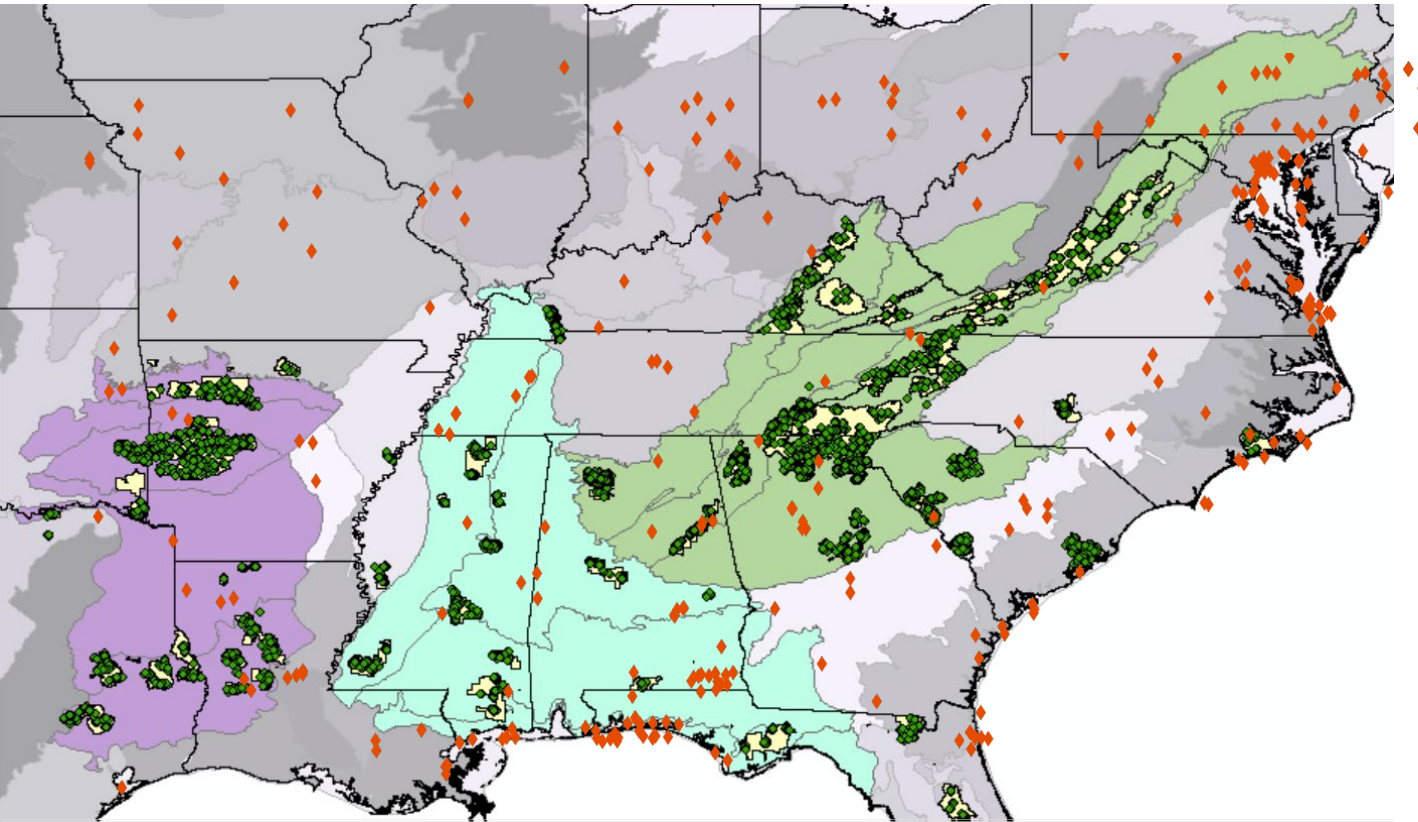
	Western Study Area	Central Study Area	Eastern Study Area
Number of final survey points	963	1068	3181
Number of species modeled	48	52	66
Number of species $\geq$ AUC 0.55	35	36	51
Mean AUC for final models	0.628	0.630	0.628
St. dev. AUC for final models	0.054	0.073	0.067



CASE STUDY:

PINE WARBLER HABITAT DISTRIBUTION -- 2019

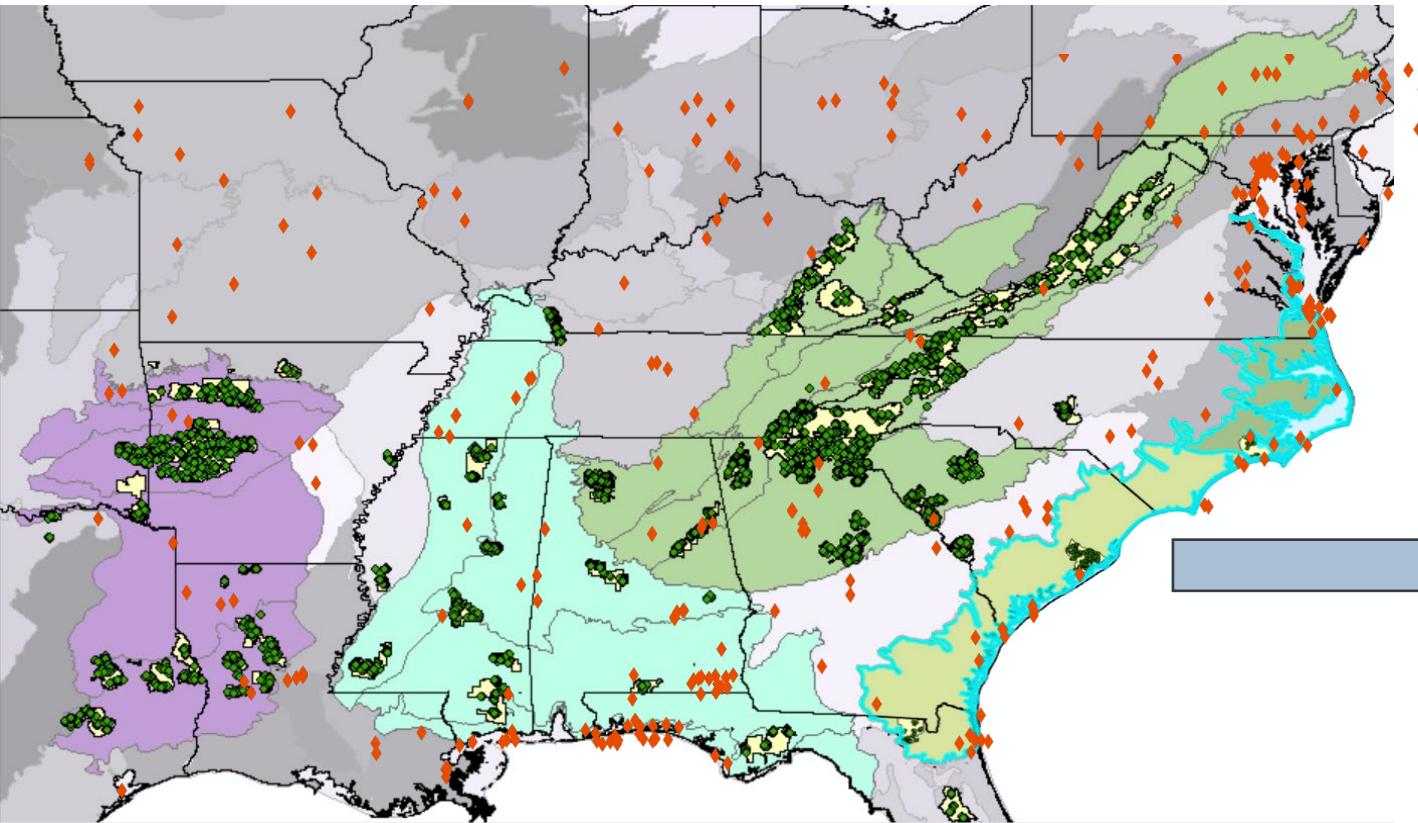




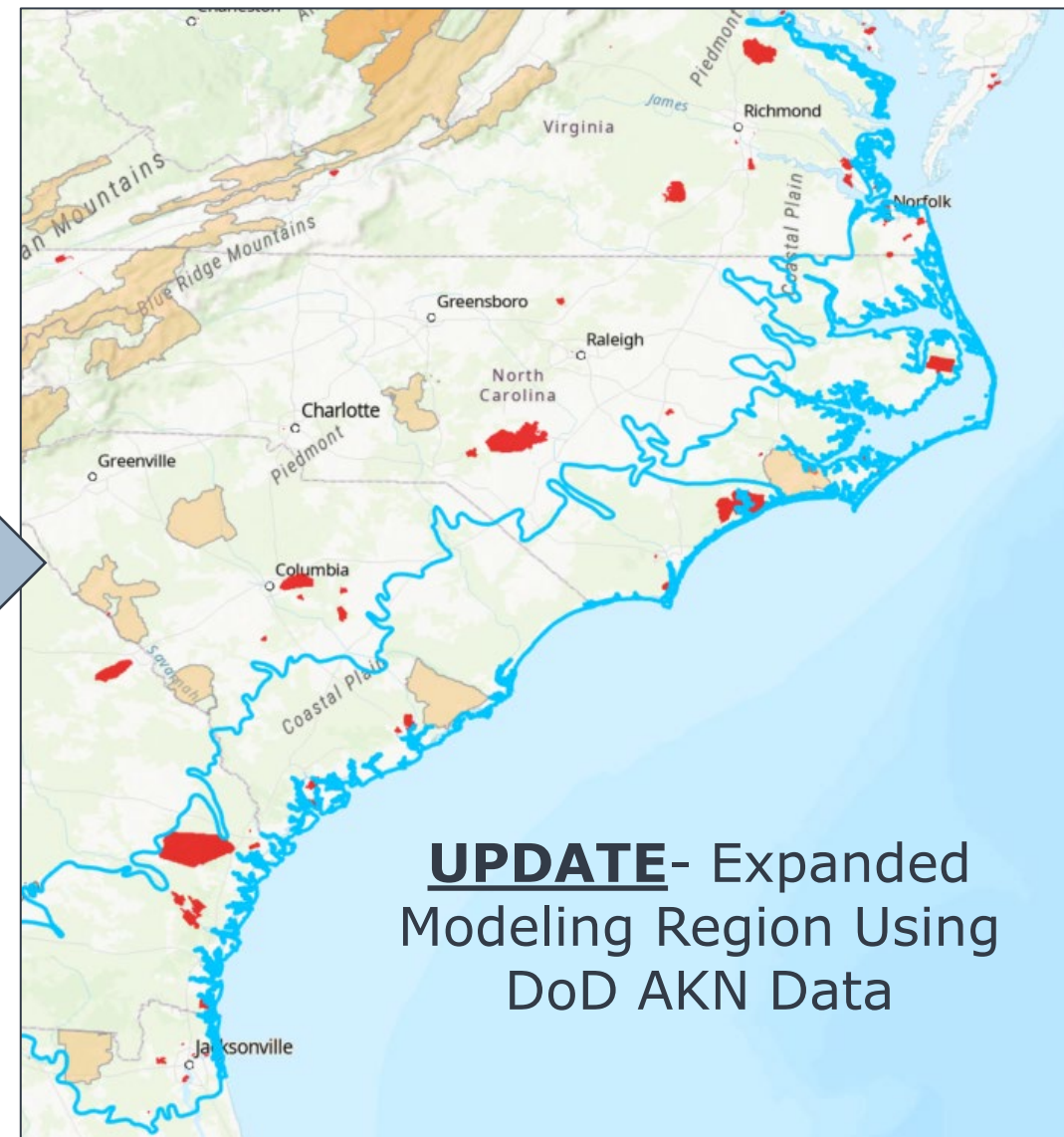
DoD Installation

CASE STUDY: **SPECIES-CENTERED HABITAT MODELING**

UPDATE- Expanded
Modeling Region Using
DoD AKN Data

**DoD Installation**

CASE STUDY: SPECIES-CENTERED HABITAT MODELING



UPDATE- Expanded
Modeling Region Using
DoD AKN Data



DATA OWNERSHIP, SHARING, AND CONTRACTORS



DATA OWNERSHIP AND CONTROL

Project Leaders / Organizations are the owner of data from a Project, regardless of where it is stored

Project Leaders can change Data Sharing Levels at any time, including making more restrictive



PARTNERSHIPS AND CONTRACTORS

Partner / Contractors

- DoD collects data for a Partnership
- Hiring independent contractors for survey work

DoD

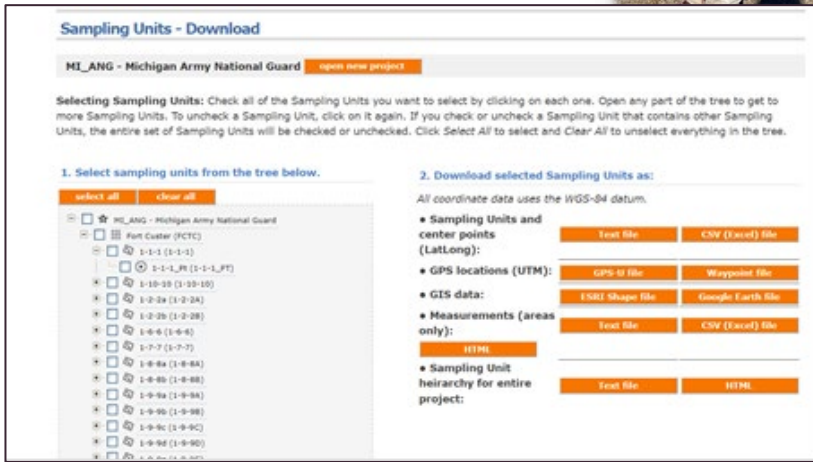
- Wants to ask questions across DoD
- Needs to manage and control all data on installations

We want data collected on/near DoD installations in DoD Projects

CONTRACTORS & TRAINING

MICHIGAN ARMY NATIONAL GUARD (MIARNG)

- Contracts Kalamazoo Nature Center (KNC) to complete bird surveys
- Wanted to train long-term staff to use AKN
- Attended training and entering data
- Additional benefit, KNC to enter other data, supplementing MIARNG data





DISCOVERING OBSERVATION DATA



EXAMPLE: R.A.I.L. TOOL

VANCE AIR FORCE BASE, OK

- Biologist was new to AF and did not have any bird data
- Wanted a list of birds on Vance for NEPA and INRMP updates

- RAIL tool available at no cost and without an account
Integrates data from AKN, Partners in Flight, US Fish and Wildlife, Breeding Bird Survey, eBird, All About Birds, and the Macaulay image library at Cornell

<https://data.pointblue.org/apps/rail/>

 Make Decisions

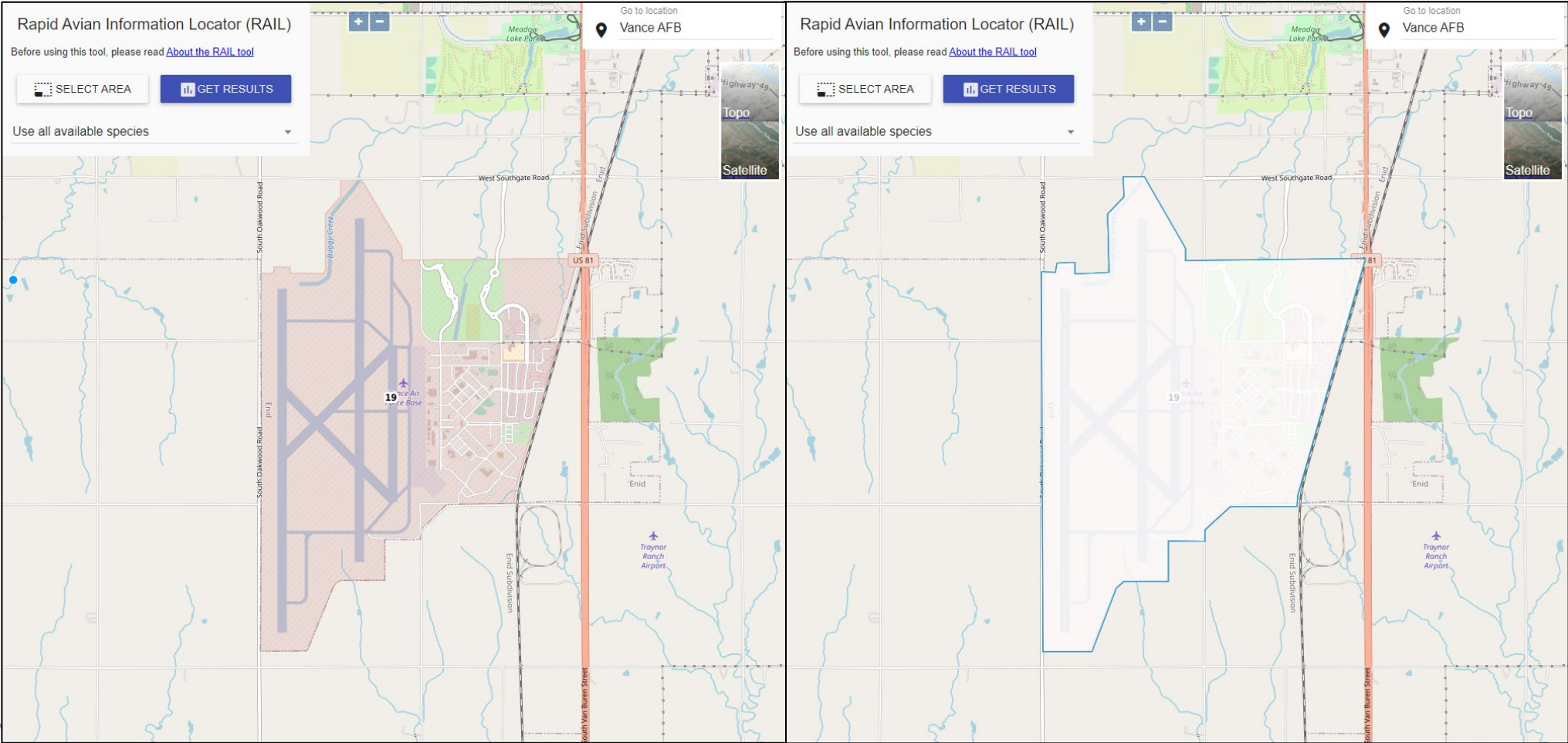


R.A.I.L. tool
(Rapid Avian Information
Locator)

Identify the set of birds that occur within
specific geographic regions and their
conservation status and population trends.
No account required.

EXAMPLE: R.A.I.L. TOOL

VANCE AIR FORCE BASE, OK



EXAMPLE: R.A.I.L. TOOL

VANCE AIR FORCE BASE, OK

Rapid Avian Information Locator (RAIL)

Before using this tool, please read [About the RAIL tool](#)

SELECT AREA

GET RESULTS

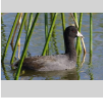
Use all available species

Species Results

FILTER RESULTS

(Currently showing 172 of 172 results)

BCR(s): 19-CENTRAL_MIXED_GRASS_PRAIRIE
State(s): OK

Bird Species	Population Estimates	Conservation Status	Detail
 American Avocet <i>Recurvirostra americana</i>	Global: Not yet available Continental U.S.: Not yet available	BCRBCC Breeding: 9, 33	
 American Bittern <i>Botaurus lentiginosus</i>	Global: Not yet available Continental U.S.: Not yet available	State Threatened: MD State Endangered: MA, CT, NJ, PA, OH, IN	
 American Coot <i>Fulica americana</i>	Global: Not yet available Continental U.S.: Not yet available	Common	



Barn Swallow
Hirundo rustica

Global: 190,000,000
Continental U.S.: 40,000,000

Common



Bell's Vireo
Vireo bellii

Global: 5,700,000
Continental U.S.: 4,600,000

Common



Belted Kingfisher
Megasceryle alcyon

Global: 1,800,000
Continental U.S.: 830,000

BCRBCC Breeding: 13



Black-bellied Whistling-Duck
Dendrocygna autumnalis

Global: Not yet available
Continental U.S.: Not yet available

Common



Black-crowned Night-Heron
Nycticorax nycticorax

Global: Not yet available
Continental U.S.: Not yet available

State Threatened: ME, NJ, OH
State Endangered: DE, PA, IN



Black-throated Green Warbler
Setophaga virens

Global: 9,200,000
Continental U.S.: 2,900,000

BCRBCC Breeding: 27

AKN Warehouse Data101

Discovering Observation Data

Looking For Trends

AKN and the DoD-What to Expect

Next Steps for You

Final Day Wrap Up



AVIAN
KNOWLEDGE NETWORK

EXAMPLE: R.A.I.L. TOOL
VANCE AIR FORCE BASE, OK

Filter Species Results

Length Min (cm)	Length Max (cm)	Primary Breeding Habitat	
Biology			
Egg Length Min (cm)	Egg Length Max (cm)	Incubation Period Min (days)	Incubation Period Max (days)
Egg Width Min (cm)	Egg Width Max (cm)	Clutch Size Min (integer)	Clutch Size Max (integer)
Number of Broods Min (integer)	Number of Broods Max (integer)	Food Category	
Behavior Category		Nesting Category	
Conservation Status			
Continental Importance	Half Life	☐ Federally Threatened or Endangered	
Bird of Conservation Concern (BCC)		☐ Migratory Bird Treaty Act (MBTA) - Listed	
		☐ DoD Mission Sensitive Species	

APPLY

Rapid Avian Information Locator (RAIL)

Before using this tool, please read [About the RAIL tool](#)

SELECT AREA

GET RESULTS

Type a species...

Selected species

BAEA - Bald Eagle

OSFL - Olive-sided Flycatcher

HASP - Harris's Sparrow



Bald Eagle
Haliaeetus leucocephalus

Global: 200,000
Continental U.S.: Not yet available

State Threatened: MA, CT, NH, NY, TX
State Endangered: NJ, VT, CA

Alpha Code

Alpha Code¹: Not yet available

Habitat

Habitat Category²: Forests
Primary Breeding Habitat⁴: Wetlands, Generalist

Physical Details

Weight²: 3000 - 6300 g
Length²: 71 - 96 cm

Population Information

Global Population³: 200,000
% Population Estimate USA³: Not yet available
Lower 95% Bound USA³: Not yet available
Upper 95% Bound USA³: Not yet available
Continental Population Trend⁴: Significant large increase
Regional Population Trend⁴: BCR19 - Significant large increase
% BCR Population³: BCR 19 - 0.00%
Lower 95% Bound BCR³: BCR 19 - null
Upper 95% Bound BCR³: BCR 19 - null
% State Population³: OK - 0.00%
Lower 95% Bound State³: OK - null
Upper 95% Bound State³: OK - null

Biology

Food Category²: Fish
Behavior Category²: Soaring (raptor)
Nesting Category²: Tree
Incubation Period²: 34 - 36 days
Clutch Size²: 1 - 3 eggs
Number of Broods²: 1
Egg description²: Dull white, usually without markings.
Egg length²: 5.8 - 8.4 cm

Conservation Status

Continental Importance⁴: Not yet available
Half Life⁴: Not yet available
Federally Threatened⁶: No
Federally Endangered⁶: No
State Threatened⁷: MA, CT, NH, NY, TX
State Endangered⁷: NJ, VT, CA
Migratory Bird Treaty Act⁸: Listed
Bird of Conservation Concern⁹: No



NAVIGATING THE R.A.I.L. TOOL DEMONSTRATION

Tools:

- [RAIL Tool](#)



EXERCISE 4: CREATE A SPECIES LIST WITH THE R.A.I.L. TOOL





CREATE A SPECIES LIST WITH THE R.A.I.L. TOOL

EXERCISE 4

Purpose: Get familiarized with the RAIL tool, which can help you find general information about the species in a particular area and their conservation status

Goal: Be comfortable navigating the RAIL tool to find information about species on your installation and understand the limitations of the tool

Thinking Ahead: Consider how RAIL might be helpful for your analyses and reporting

6c. Analyze
Observations



CREATE A SPECIES LIST WITH THE R.A.I.L. TOOL

EXERCISE 4

Exercise:

- [Exercise 4 instructions](#)





DOWNLOAD POINT COUNT DATA FROM WAREHOUSE DEMONSTRATION



Tools:

- [Data Downloader](#)

6c. Analyze
Observations



BREAK (10 MINS) – RETURN :35 AFTER

NEXT: LOOKING FOR TRENDS



CASE STUDY:

MIGRATORY SHOREBIRD PROJECT

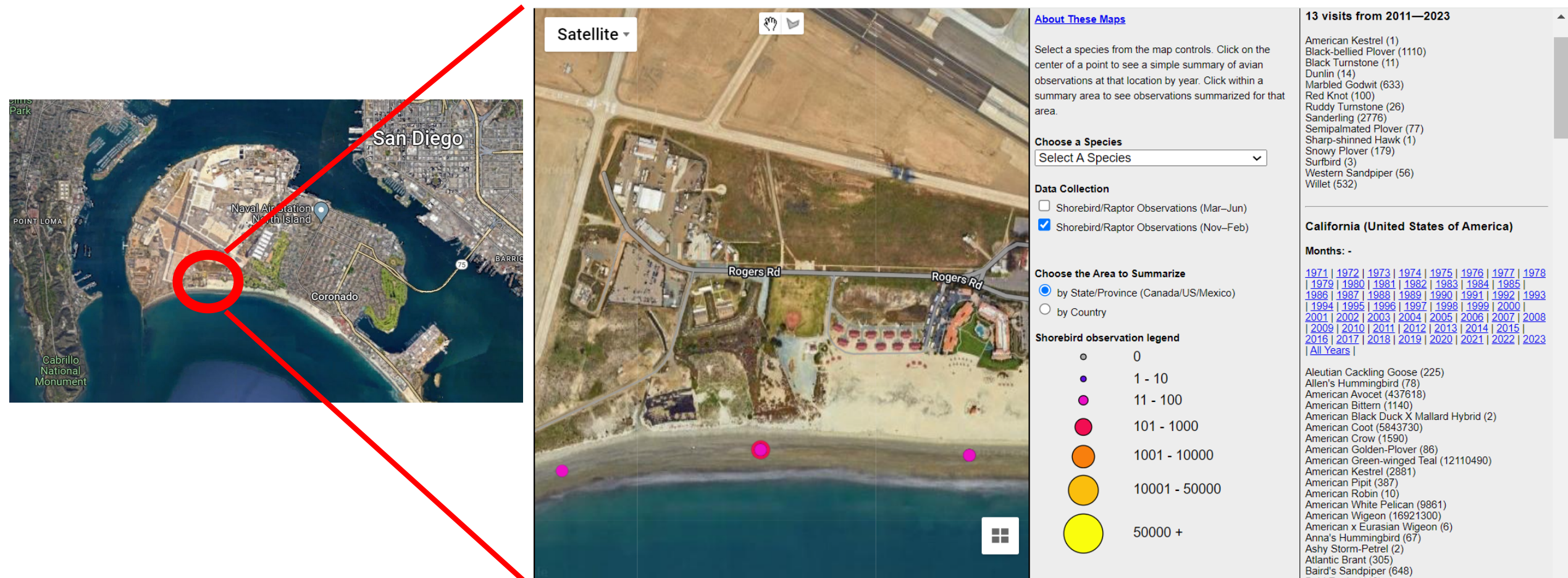
- Largest coordinated effort to monitor wintering shorebirds across all 13 countries of the Pacific Coast of the Americas
- Project goals
 - Wintering Shorebird abundance and distribution
 - Factors influencing shorebird populations
 - Provide science-based management guidance from site to fly-way level



Western Sandpiper, Dam Neck Annex, VA; Credit: Paul Block

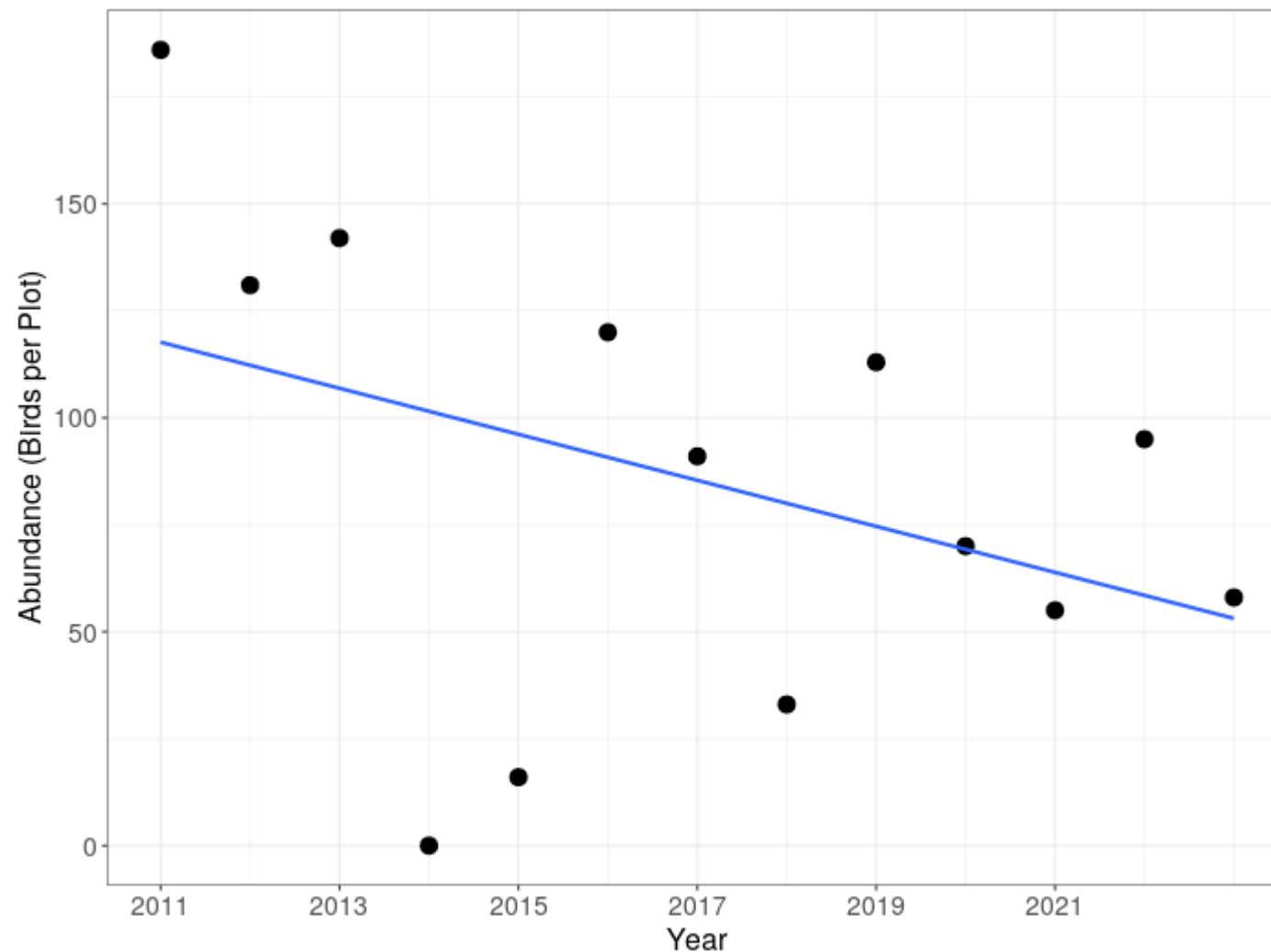
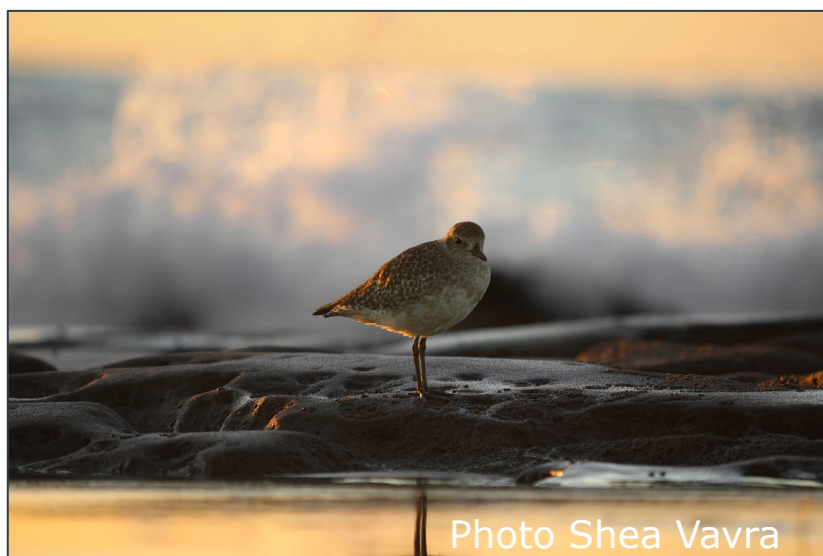
CASE STUDY:

MIGRATORY SHOREBIRD PROJECT



CASE STUDY: MIGRATORY SHOREBIRD PROJECT

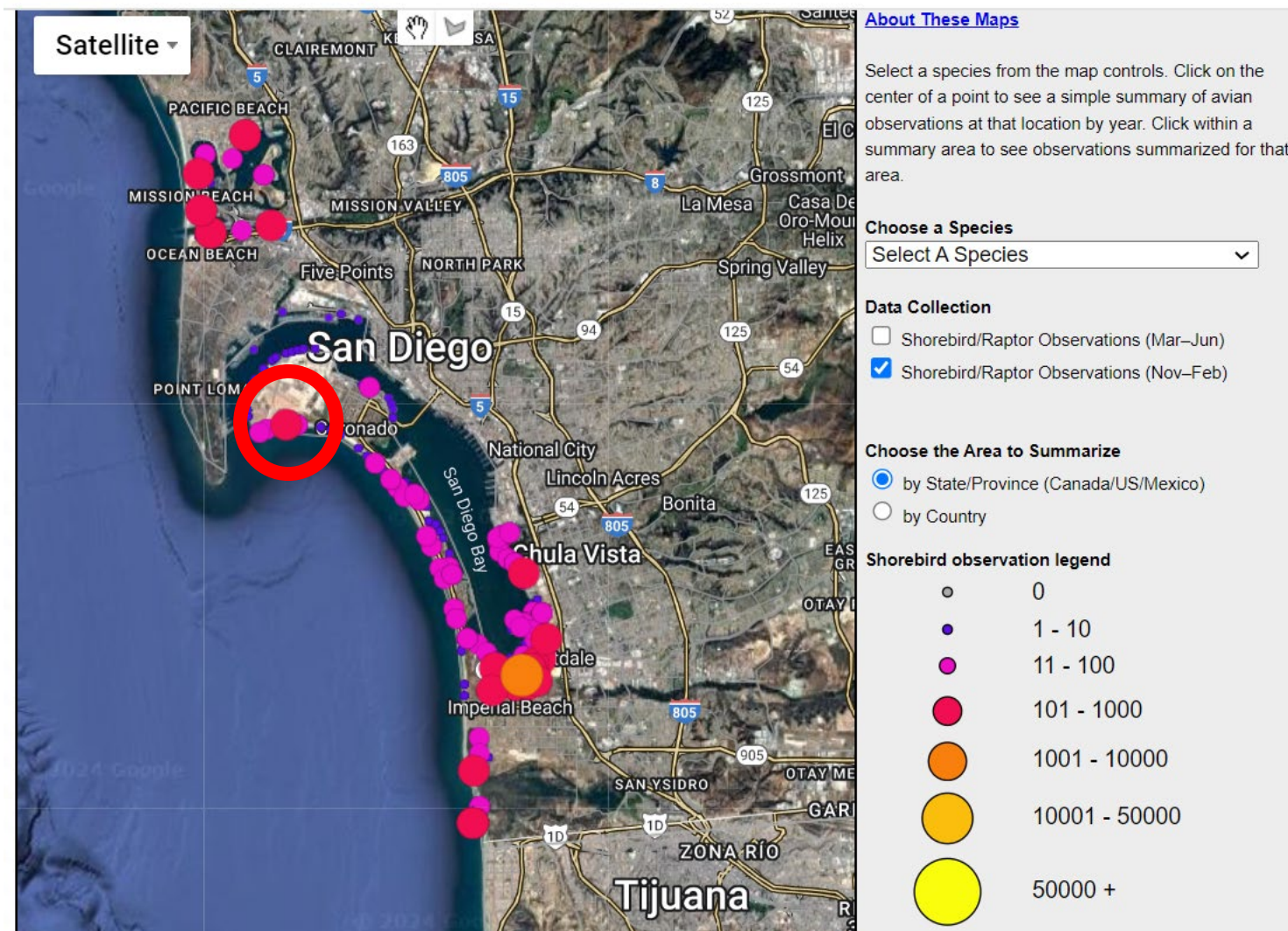
North Island Coronado Beach Black-bellied plover abundance





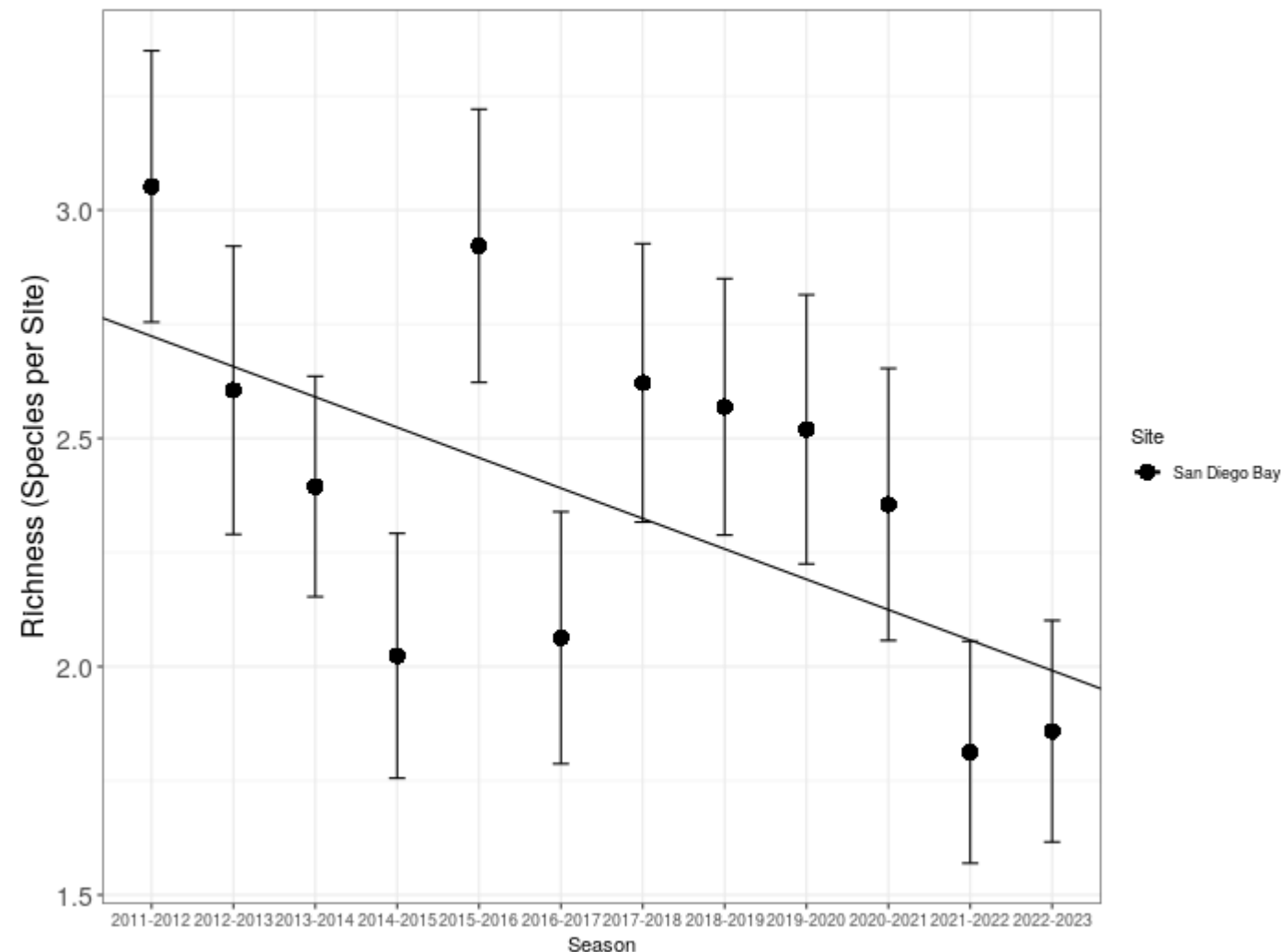
CASE STUDY: MIGRATORY SHOREBIRD PROJECT

- Data collected between November and December every year since 2011
- <https://migratoryshorebirdproject.org>

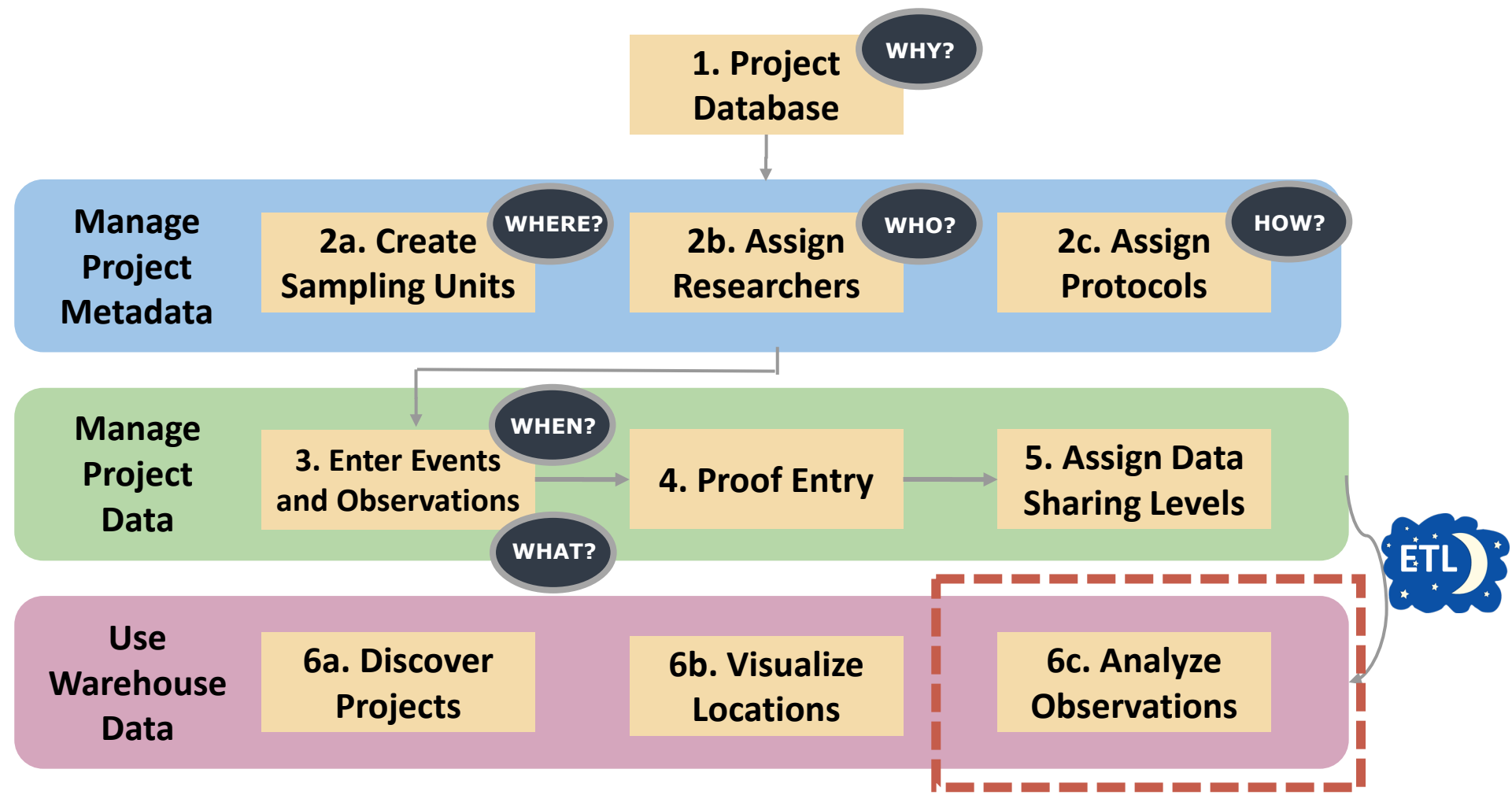


CASE STUDY: MIGRATORY SHOREBIRD PROJECT

San Diego Bay: Wintering shorebird species richness



MANAGING A PROJECT: LOOKING FOR TRENDS





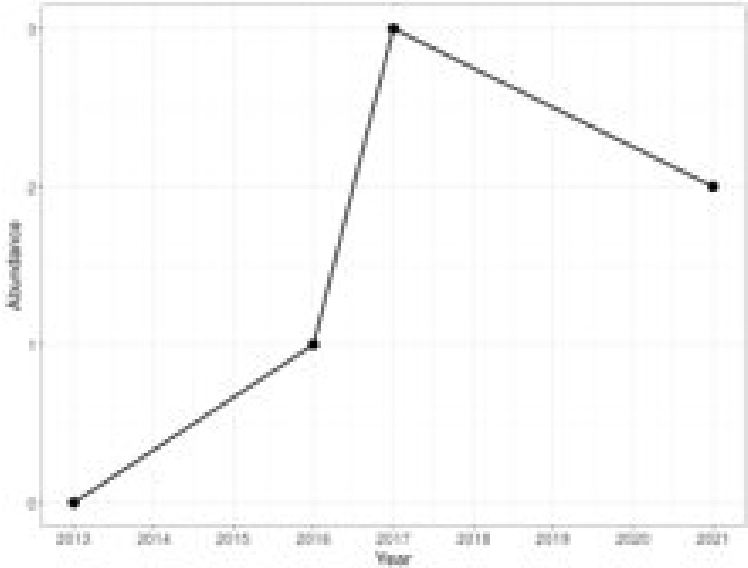
USING THE ANALYST TOOL

DEMONSTRATION

Tools:

- <https://data.pointblue.org/apps/analysts/>

Common Name	2013	2014	2015	2016	2017	2021
Acadian Flycatcher	6	11	25	12	14	15
Alder Flycatcher	0	0	0	0	1	0
American Crow	41	28	42	29	24	113
American Goldfinch	14	1	5	6	3	16
American Redstart	0	1	0	1	1	2
American Robin	0	0	0	0	1	0
Barred Owl	0	0	0	0	0	1





LOOKING FOR TRENDS

EXERCISE 5





LOOKING FOR TRENDS

EXERCISE 5

Purpose: Introduce you to more data exploration and discovery tools

Goal 1: Understand how to use the Observations Map to find survey locations from different datasets for a particular species and examine species trends

Goal 2: Use the Analyst Application to create a species list, check effort summaries, and examine trends.

Thinking Ahead: Consider how Observations Map may be helpful for your analyses and reporting; consider how the Analyst Application can assist in your data visualization and annual reporting needs.



LOOKING FOR TRENDS

EXERCISE 5

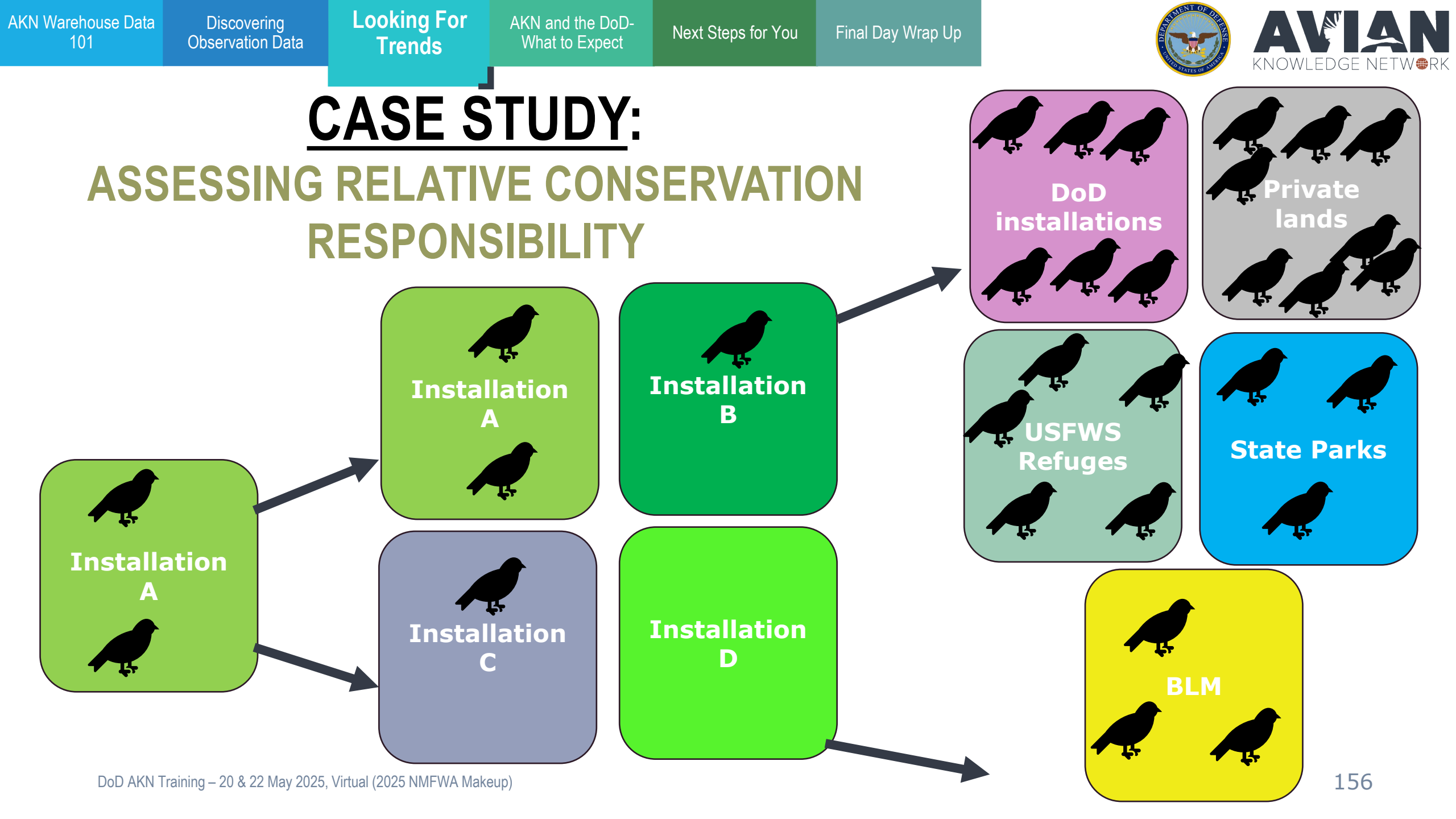
- Exercise:
 - Orientation of [Observation Map](#)
 - [Exercise 5 instructions](#)

Use
Warehouse
Data

6a. Discover
Projects

6b. Visualize
Locations

6c. Analyze
Observations

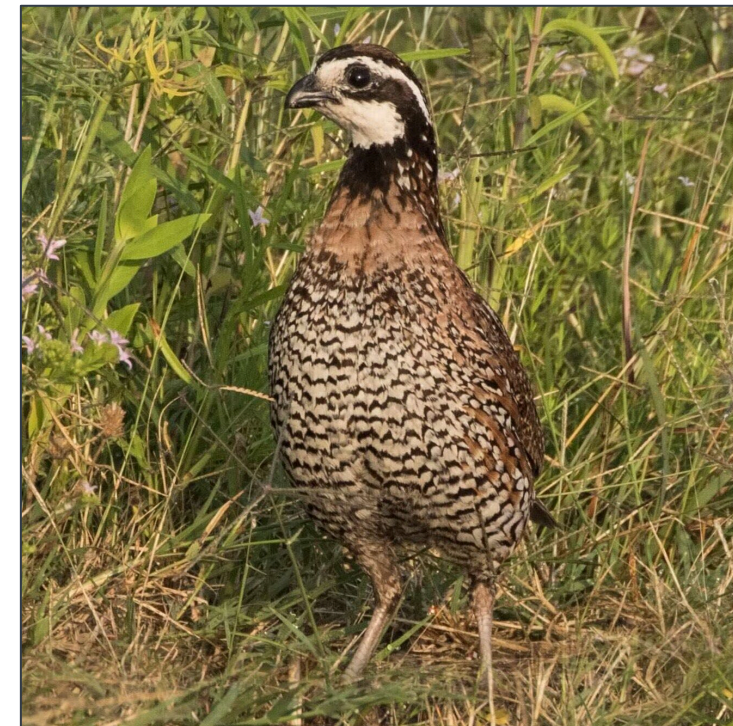
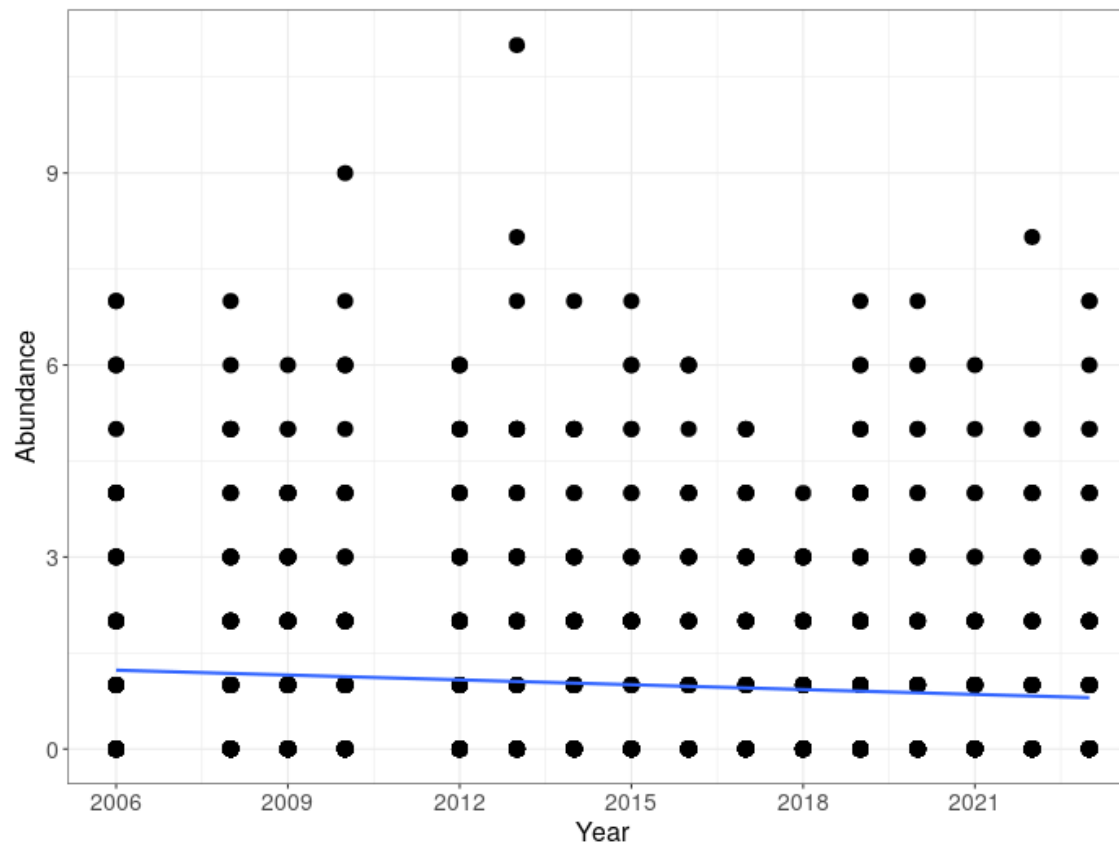


CASE STUDY:

ASSESSING RELATIVE CONSERVATION RESPONSIBILITY –
NORTHERN BOBWHITE

AKN Analyst
output

Fort Campbell



AKN Warehouse Data
101

Discovering
Observation Data

Looking For
Trends

AKN and the DoD-
What to Expect

Next Steps for You

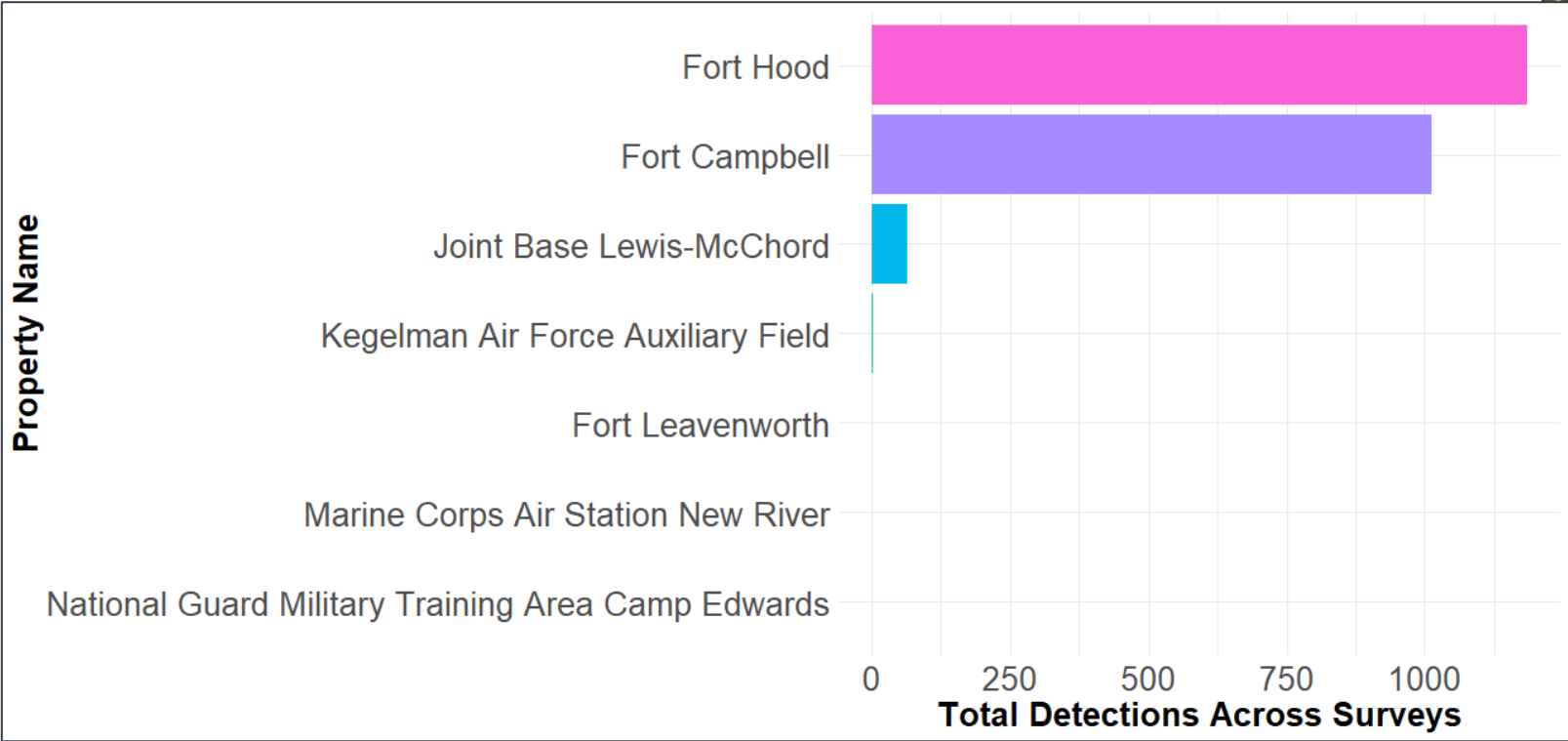
Final Day Wrap Up



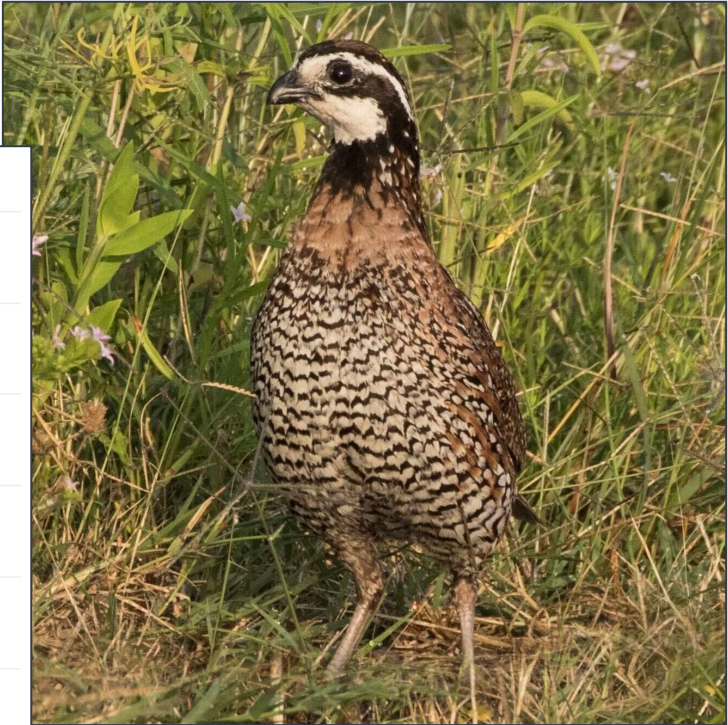
CASE STUDY:

ASSESSING RELATIVE CONSERVATION RESPONSIBILITY – NORTHERN BOBWHITE

Which DoD installations have the most detections?



Property Name	Total Detections Across Surveys
Fort Hood	1150
Fort Campbell	1000
Joint Base Lewis-McChord	50
Kegelman Air Force Auxiliary Field	10
Fort Leavenworth	0
Marine Corps Air Station New River	0
National Guard Military Training Area Camp Edwards	0



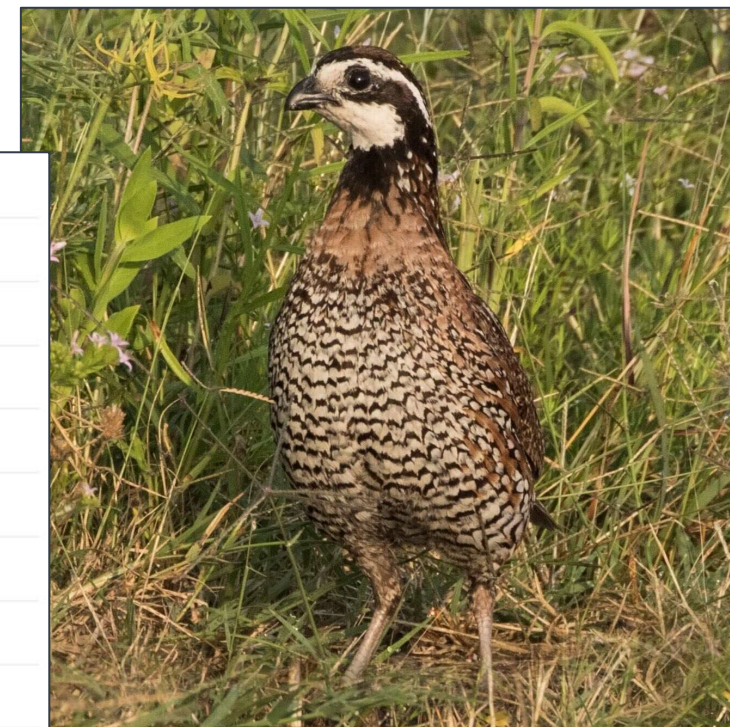
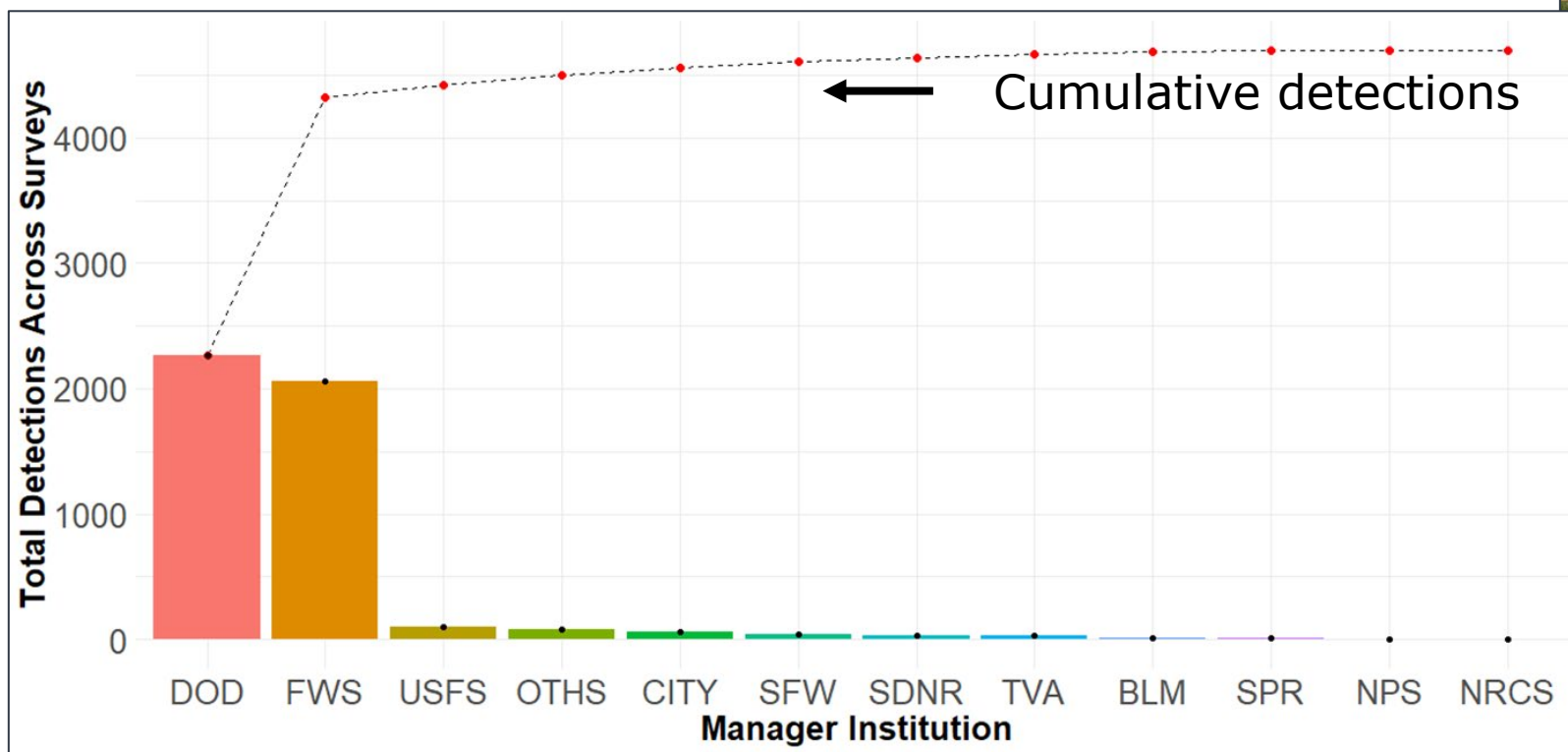
DoD AKN Training – 20 & 22 May 2025, Virtual (2025 NMFWA Makeup)

158

CASE STUDY:

ASSESSING RELATIVE CONSERVATION RESPONSIBILITY – NORTHERN BOBWHITE

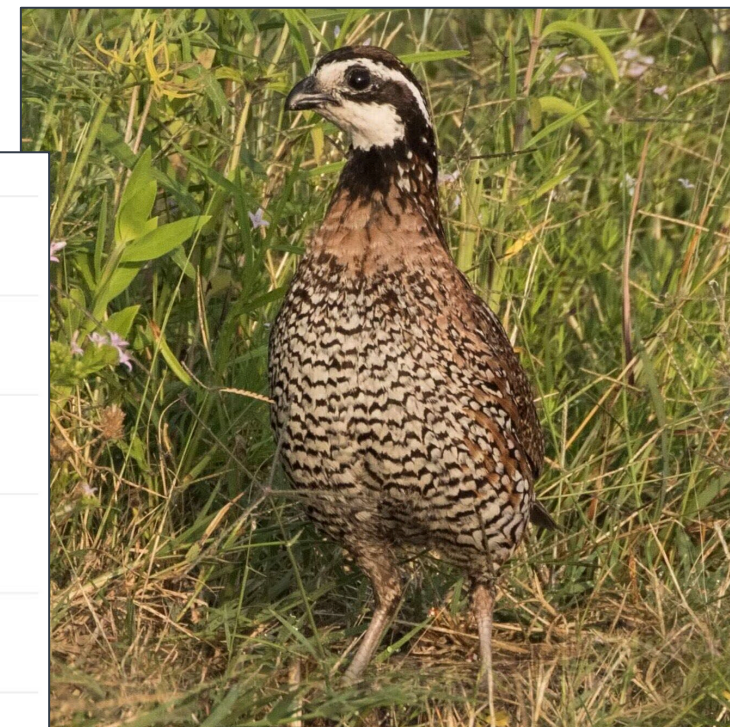
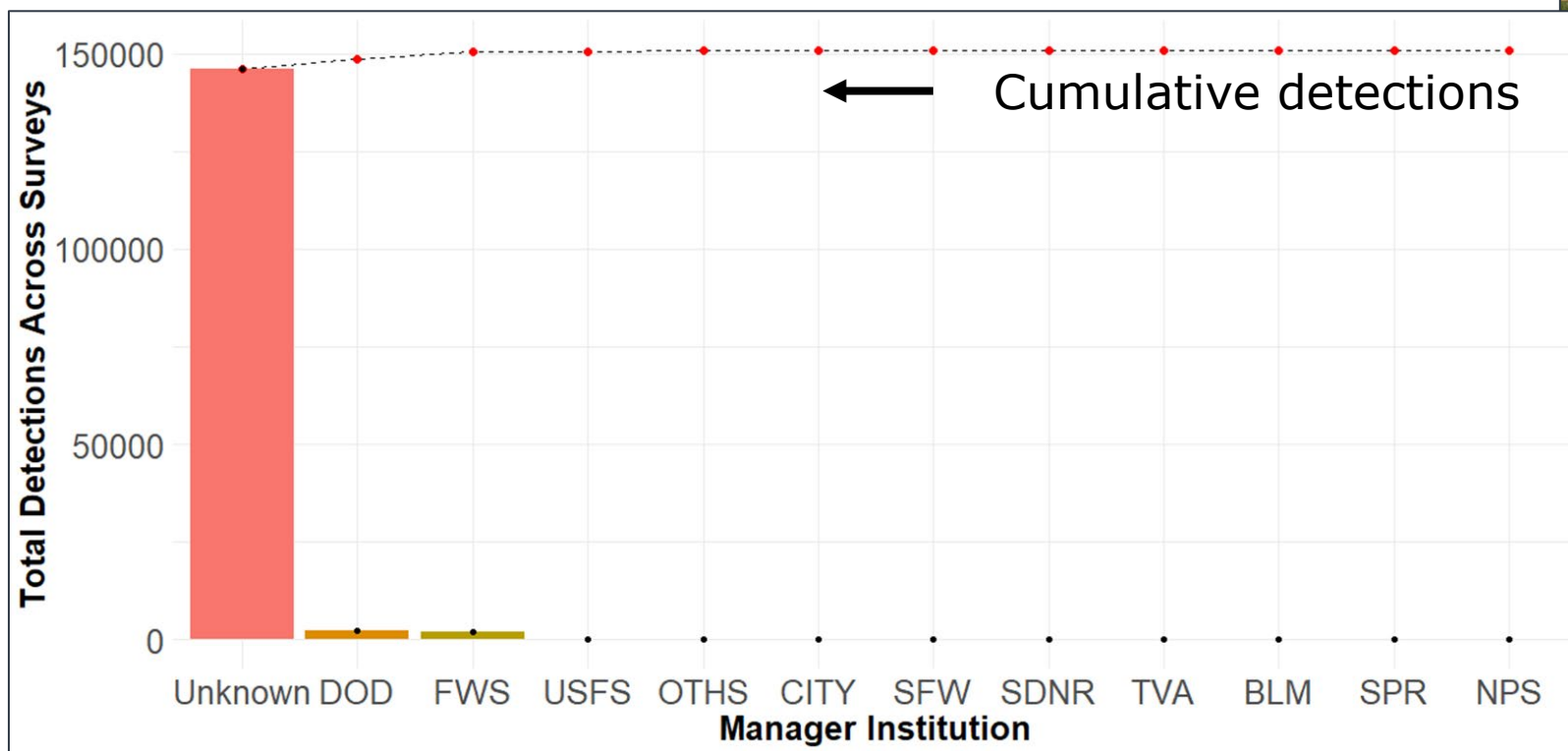
Across protected areas?



CASE STUDY:

ASSESSING RELATIVE CONSERVATION RESPONSIBILITY – NORTHERN BOBWHITE

Across jurisdictions?

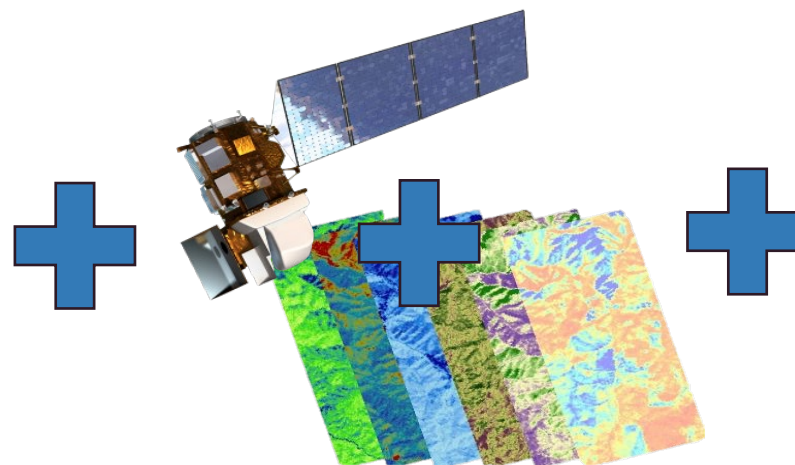


CASE STUDY:

ASSESSING RELATIVE CONSERVATION RESPONSIBILITY

Avian Distributions Across Land Ownerships (ADALO) Tool Expansion

- Use **AKN data** in conjunction with **NASA remote sensing products** to model avian distribution and abundance across the U.S.
- Incorporate **DoD AKN data** for Mission-Sensitive Species



*Proposal **through NASA Research Opportunities in Space and Earth Science (ROSES)** –
ACCEPTED!*



CLASS PICTURE!!



Klamath Bird
Observatory





WHAT SHOULD YOU EXPECT THIS YEAR WITH AKN AND DoD PARTICIPATION?





DoD AKN Program

Task Categories



Ongoing Base Support

Ex. project coordination, customer data support, back-end technical support



Training

Ex. quarterly regional, service-specific, NMFWA, training videos



DoD-Specific Requirements

Ex. user guides, DoD AKN Portal, data visualization and query tools



Data Initiatives

Ex. new data type incorporation, integration with partner data, data standardization



AKN Tools (Partner Initiatives)

Ex. new AKN roles, advanced analysis and query functionality, cohesive U.I., Program Enterprise

OSD AND MILITARY SERVICES SUPPORT

- **Office of Secretary of Defense and Military Service Support**

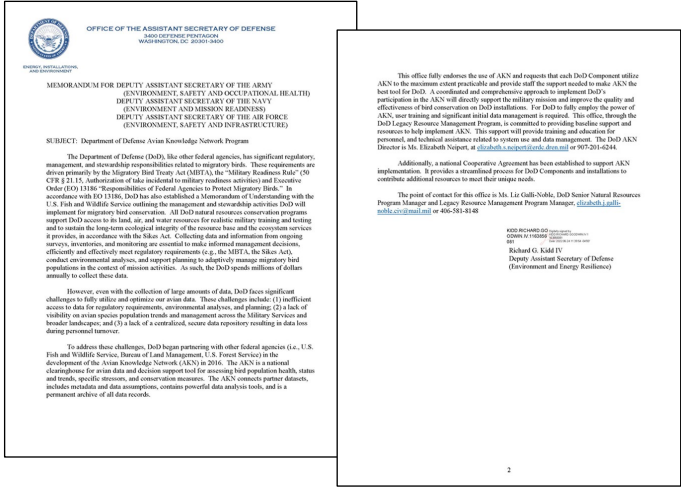
- Megan Scanlin & Michael Langston – Office of Secretary of Defense
- Karla Meyer – Air Force
- Eric Beckley – Army
- Jacque Rice – Marine Corps
- Tammy Conkle & Tom Mayes – Navy
- Alisa Dickson – National Guard

- **DoD Support Memo**

- Signed 24 June 2022
- Mandate use DoD-wide

- **DoD-wide Cooperative Agreement**

- Allows oversight of all AKN actions
- Cost-share actions
- Enable Military Services and installations to empower smaller amounts of \$\$
- Allows MIPR for funding our program partners





MILITARY SERVICE ACTIONS

Air Force

- ✓ One virtual and one in-person training
- ✓ USDA BASH data workflow
- ✓ GIS data workflow
- ✓ MSS Tool
- ✓ Implicit/explicit zero data
- ✓ Priority data uploads/support
- ✓ Methodology consulting for INRMP objectives



Navy

- ✓ Data prioritization
- ✓ Project creation
- ✓ Data support and upload

National Guard

- ✓ Camp Williams (MAARNG) Training August 2025
- ✓ Work with states for other tasks



Marine Corps

- ✓ Funding for Program Enterprise
- ✓ Initial funding for:
- ✓ Contractor Role
- ✓ MSS Query Tool
- ✓ MSS monitoring & data support
- ✓ Historical & contemporary data support

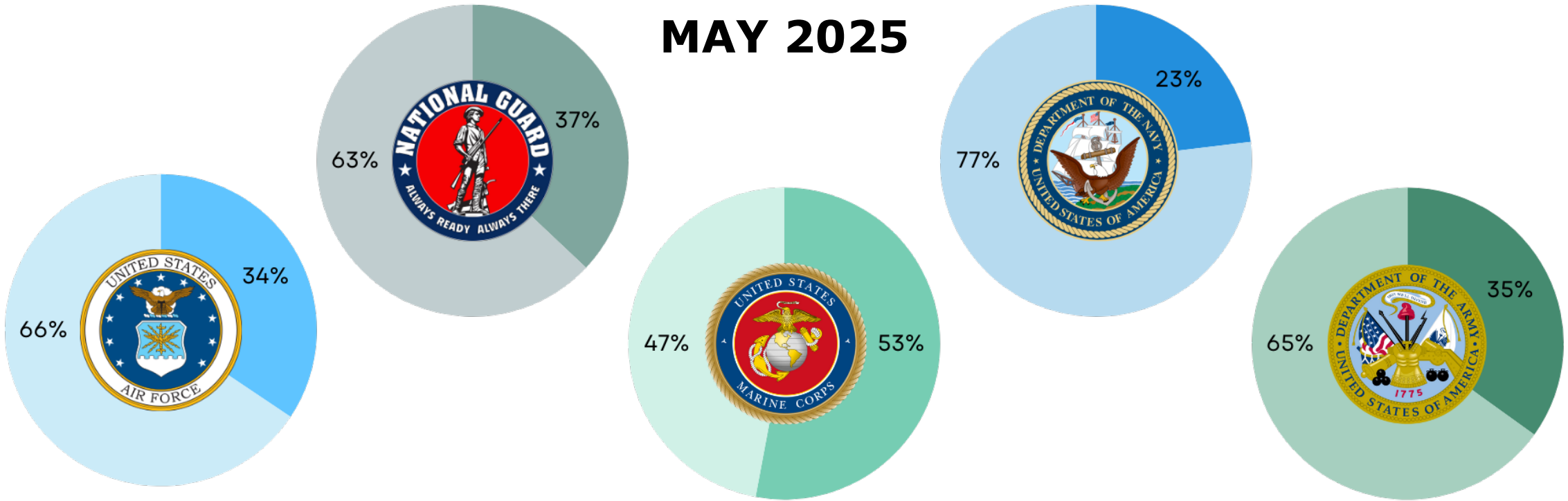
Army

- ✓ *Data Discovery and Training Survey*
- ✓ *Building a 5-year plan*
- ✓ *Timeline for 100% compliance*
- ✓ *Two virtual trainings*



MILITARY SERVICE PROGRESS

Installations with Active Projects by Service Branch



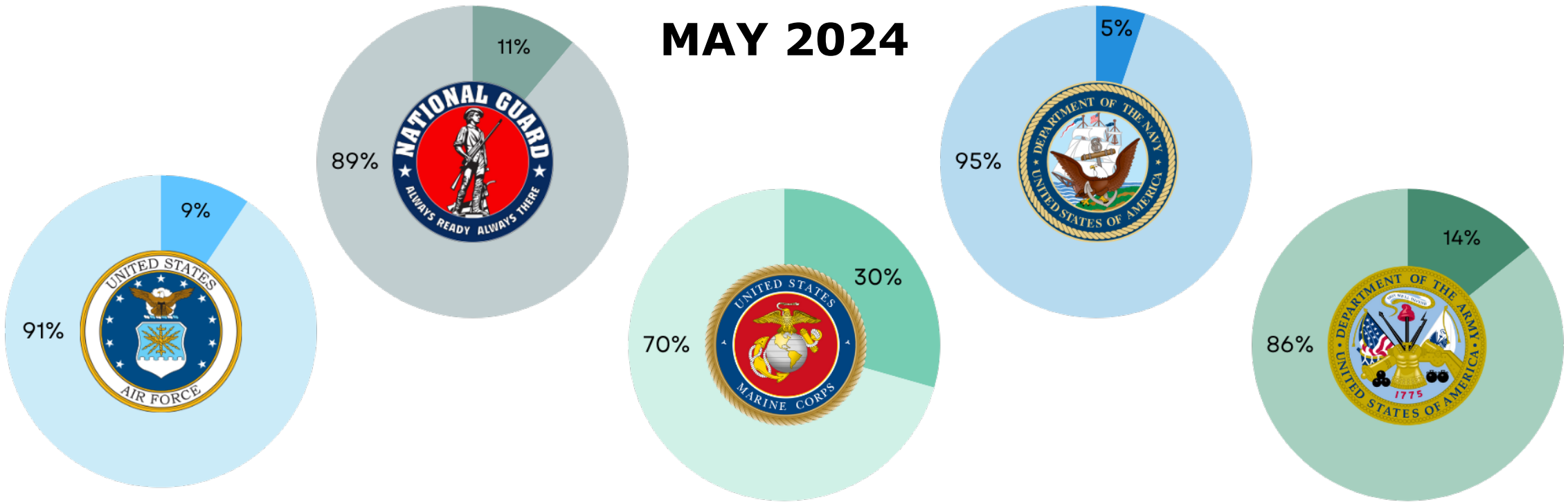
Total Number of Installations: **63** Army, **78** Navy, **96** Air Force, **17** Marine Corps, **54** National Guard states/territories

Dark colors - Installations with
Active Projects

Light colors - Installations
without Active Projects

MILITARY SERVICE PROGRESS

Installations with Contemporary Data by Service Branch



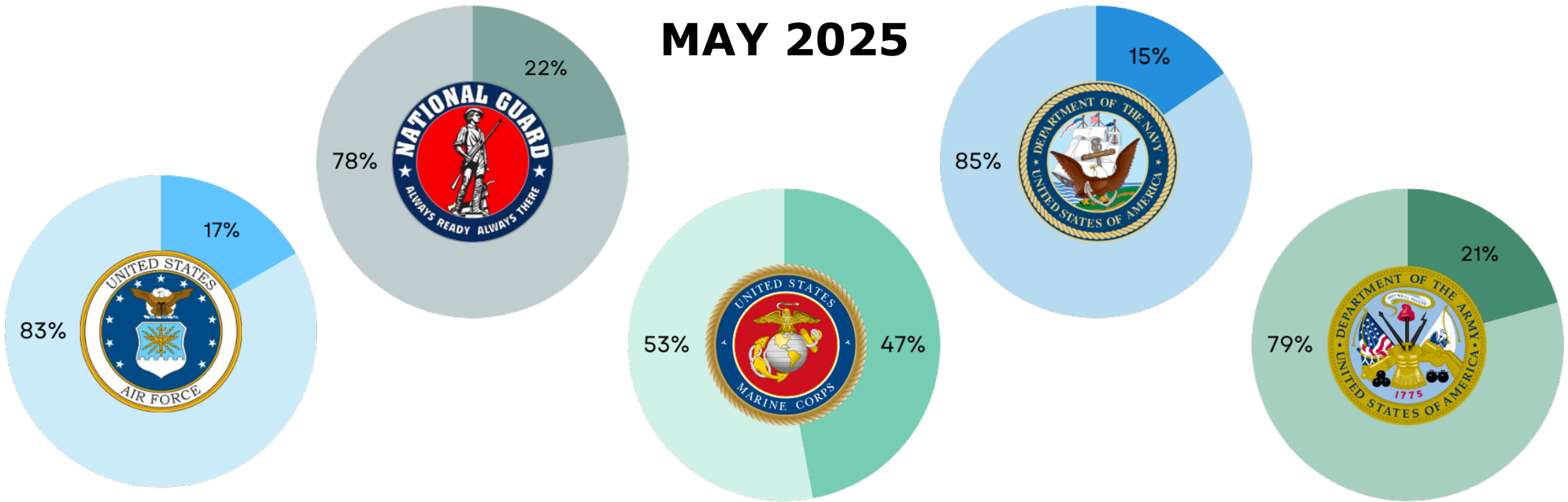
Total Number of Installations: **63** Army, **78** Navy, **96** Air Force, **17** Marine Corps, **54** National Guard states/territories

Dark colors - Installations with
Active Projects

Light colors - Installations
without Active Projects

MILITARY SERVICE PROGRESS

Installations with Contemporary Data by Service Branch



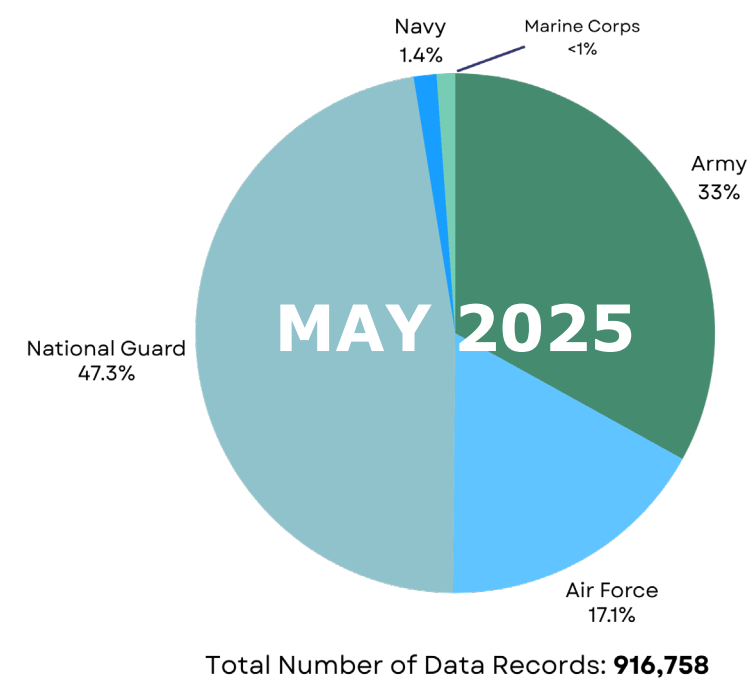
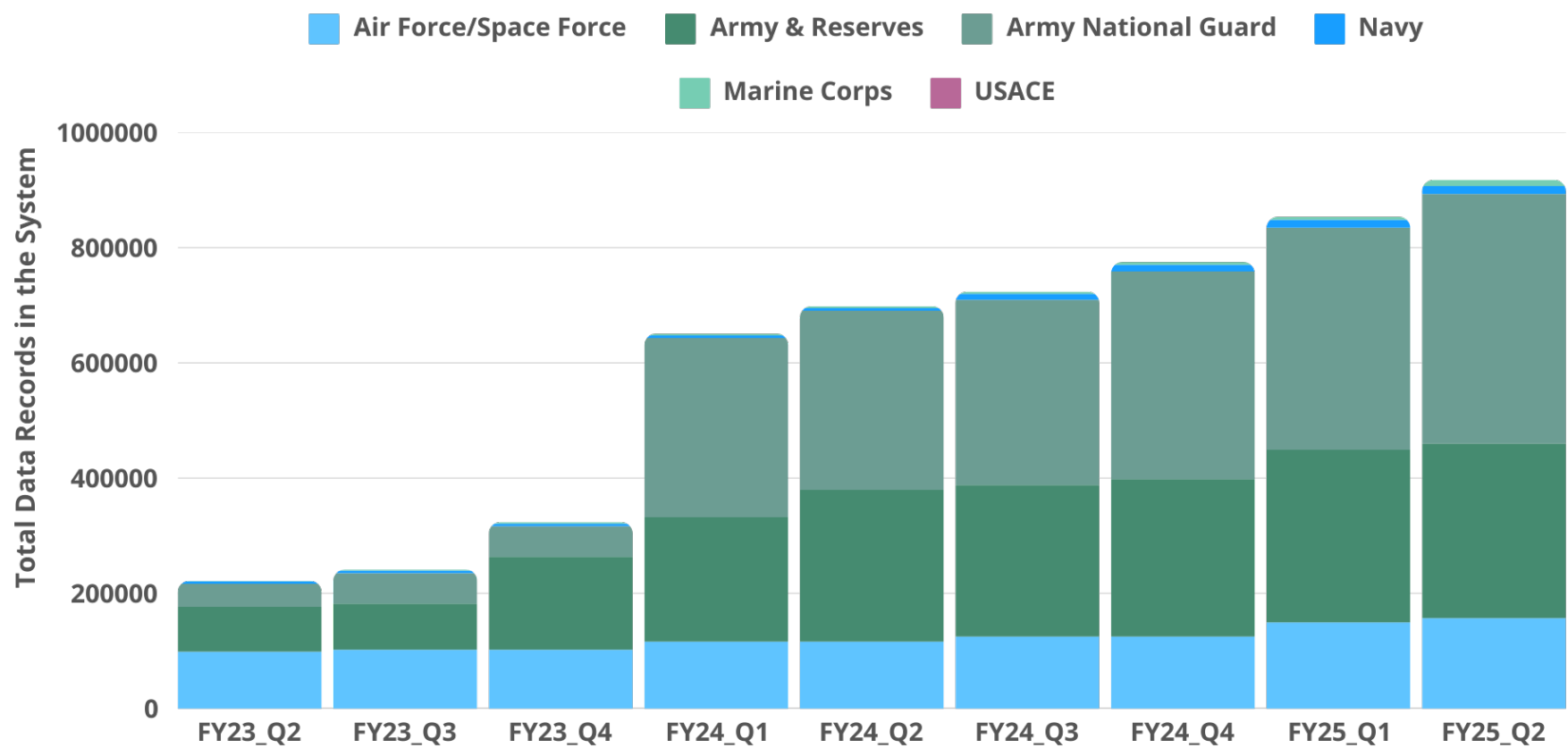
Total Number of Installations: 63 Army, 78 Navy, 96 Air Force, 17 Marine Corps, 54 National Guard states/territories

Dark colors - Installations with
Active Projects

Light colors - Installations
without Active Projects

MILITARY SERVICE PROGRESS

DoD Data Records in AKN by Military Service



MILITARY SERVICE PROGRESS

DoD Data Records in AKN by Military Service

Check out the latest DoD AKN Program Progress on our new Progress Dashboard

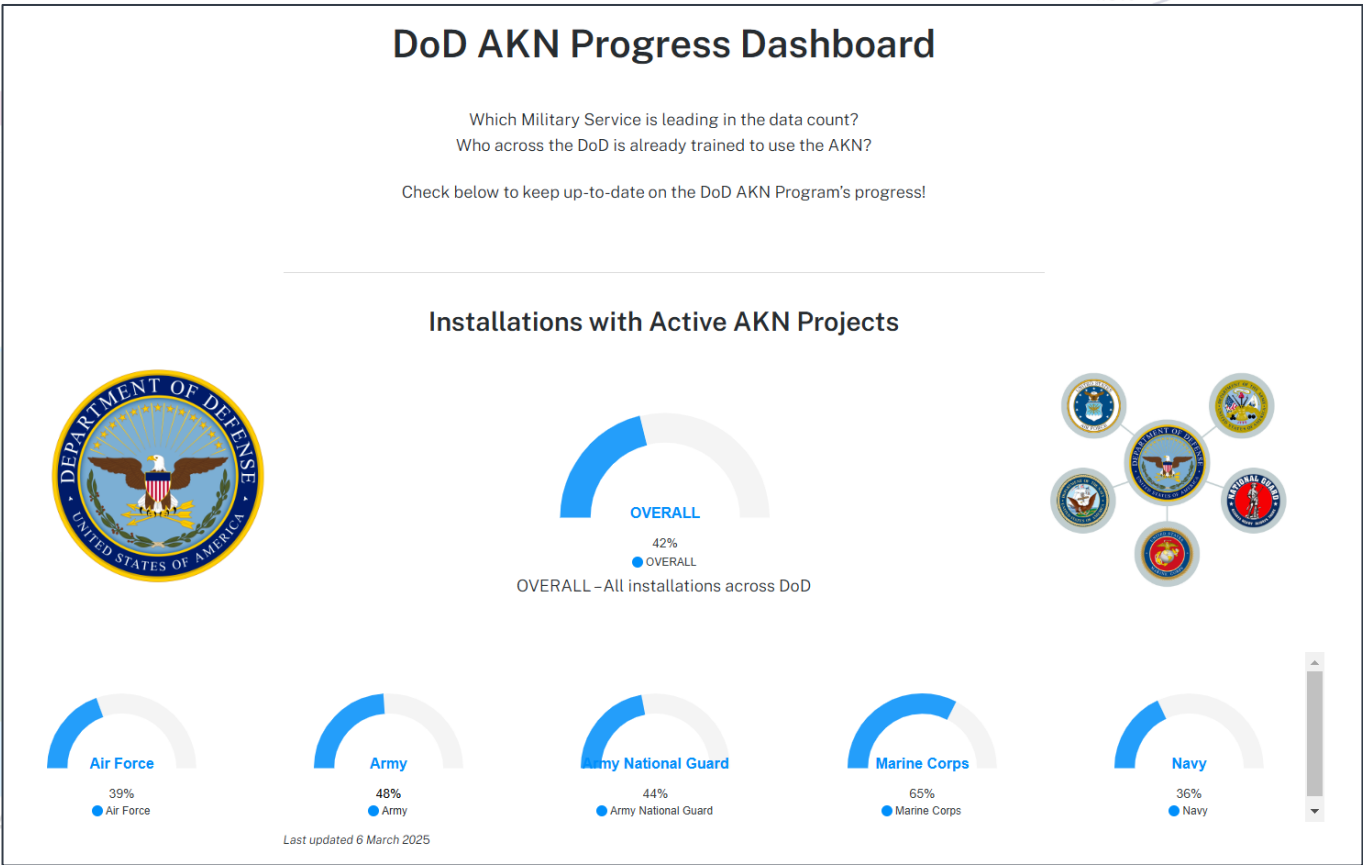
Total Data Records in the System



600000
400000
200000
0

FY24_Q1

FY24



<https://www.dodakn.org/dod-akn-progress-dashboard/>

DOD TOOLS

Standardized Sampling Methods

- Survey DoD personnel to identify the most common bird monitoring questions
- Promote standardized data collection methods across DoD
- Provide appropriate protocol selection based on management or research needs





DOD TOOLS

Standardized Sampling Methods

SPECIES CHECKLIST



Species checklists are a simple way to record both incidental and comprehensive observations of bird species observed on your installation that don't fit a traditionally structured survey (e.g., point counts, line transects, etc.).

CHRISTMAS BIRD COUNT



The Christmas Bird Count (CBC) is a citizen science project that involves counting birds in the Western Hemisphere. Click here to learn how to incorporate CBC data collected on your installation into your AKN Project here.

EBIRD CHECKLISTS



eBird is a powerful community science tool run by Cornell Lab of Ornithology that collects observational data from birders. Click here to learn how to incorporate eBird checklist data collected on your installation in your AKN Project.

POINT COUNT METHODS



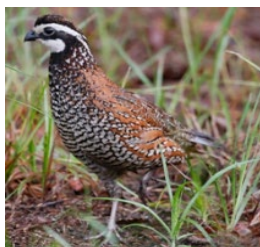
Click here to learn about Point Count methodologies including their assumptions, typical use cases, and examples of commonly used methodologies and their AKN Protocols.

AREA SEARCH METHODS



Click here to learn about Area Search methodologies including their assumptions, typical use cases, and examples of commonly used methodologies and their AKN Protocols.

DOD MISSION-SENSITIVE SPECIES



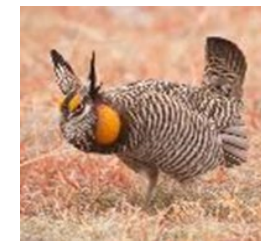
Northern Bobwhite



Greater Sage-grouse



Mountain Plover



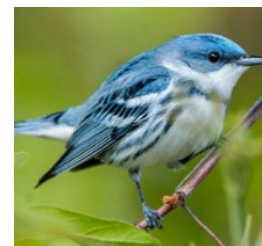
Greater Prairie Chicken



Burrowing Owl



Least Tern (Atlantic
Coast)



Cerulean Warbler



Golden-winged
Warbler



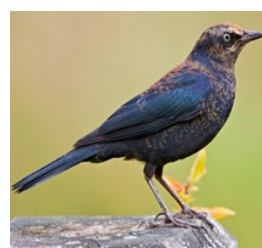
Pinyon Jay



Southeastern American
Kestrel



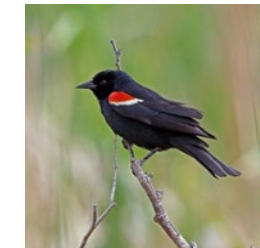
Henslow's Sparrow



Rusty Blackbird



Bendire's Thrasher



Tricolored Blackbird



Bachman's Sparrow



Portal Announcement



DataDownload_PointCount_2025-03-21-13-20-48.xlsx

Search

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Aptos Narrow11A^BA⁻Wrap TextGeneralNormalBadGoodNeutralCalculationCheck CellExplanatory...InputLinked CellNoteInsertDeleteFormatAutosumSort & Find & FilterSelectFillClearSensitivityAdd-insCreate and Share Adobe PDF

GlobalUniquelIdentifier

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26	URNcatal ARNOLD / [DOD, AIRFORCE]	Arnold AFB	ARNOLD_AFB_IM_39	Integrated IM_39	IM_39	39	668988	668943 Point Cour	35.39832	-86.0844	1 3_5_10m25_50_100M+Fly	5/15/2019	2019	5	15	135	56	JL	Centronyx Henslow's HESP	1907	894	12.5																											1	0	CLEAN	
27	URNcatal ARNOLD / [DOD, AIRFORCE]	Arnold AFB	ARNOLD_AFB_IM_39	Integrated IM_39	IM_39	39	668988	668943 Point Cour	35.39832	-86.0844	1 3_5_10m25_50_100M+Fly	5/15/2019	2019	5	15	135	56	JL	Centronyx Henslow's HESP	1907	894	12.5																												1	0	CLEAN
28	URNcatal ARNOLD / [DOD, AIRFORCE]	Arnold AFB	ARNOLD_AFB_IM_40	Integrated IM_40	IM_40	40	668989	668944 Point Cour	35.35224	-86.1417	1 3_5_10m25_50_100M+Fly	6/4/2008	2008	6	4	156	77	JL	Colinus vir Northern I NOBO	120	1181	75																											1	0	CLEAN	
29	URNcatal ARNOLD / [DOD, AIRFORCE]	Arnold AFB	ARNOLD_AFB_IM_41	Integrated IM_41	IM_41	41	668990	668945 Point Cour	35.35267	-86.1387	1 3_5_10m25_50_100M+Fly	6/4/2008	2008	6	4	156	77	JL	Colinus vir Northern I NOBO	120	1181	550																											1	0	CLEAN	
30	URNcatal ARNOLD / [DOD, AIRFORCE]	Arnold AFB	ARNOLD_AFB_IM_61	Integrated IM_61	IM_61	61	668998	668953 Point Cour	35.36268	-86.1177	1 3_5_10m25_50_100M+Fly	5/15/2017	2017	5	15	135	56	JL	Colinus vir Northern I NOBO	120	1181	75																											1	0	CLEAN	
31	URNcatal AZ_ARNG [DOD, NATGUARD]	Arizona Arm AZ_ARNG-LOWEBR	Florence I LOWEBR	Lower B	LOWERB1		686293	675873 Point Cour	33.14636	-111.348	2 6_1TB_ZDB	4/27/2023	2023	4	27	17	38																																	1	0	CLEAN
32	URNcatal BEALE_AFI [DOD, AIRFORCE]	Beale AFB	BEALE_AFB-SPC2	Beale Point SPC2	Summer Pt SPC2		658070	671796 Point Cour	39.12958	-121.382	1 0_to_4m25_50_100M+	5/13/2024	2024	5	13	134	55	6:33:00	EC	Aegialius tr Tricolored TRBL	1994	1811	550																											63	0	CLEAN
33	URNcatal BEALE_AFI [DOD, AIRFORCE]	Beale AFB	BEALE_AFB-SPC2	Beale Point SPC2	Summer Pt SPC2		658070	671796 Point Cour	39.12958	-121.382	2 3_5m50M+Fly	6/2/2021	2021	6	2	153	74																																	50	0	CLEAN
34	URNcatal BEALE_AFI [DOD, AIRFORCE]	Beale AFB	BEALE_AFB-SPC3	Beale Point SPC3	Summer Pt SPC3		658071	671797 Point Cour	39.13327	-121.378	2 0_to_4m2																																									

- Homogenized data
- 30 installations
- Survey details

DOD MISSION-SENSITIVE SPECIES

Species	# of Installations
Greater Sage–Grouse	6
Greater Prairie–Chicken	3
Northern Bobwhite	70
Southeastern American Kestrel	14
Black Rail**	5
Mountain Plover	16
Burrowing Owl	50
Least Tern (Atlantic Coast Pop)	18
Pinyon Jay	7
Bendire's Thrasher	4
Golden–winged Warbler	24
Cerulean Warbler	30
Bachman's Sparrow	24
Henslow's Sparrow	25
Tricolored Blackbird	15
Rusty Blackbird	30

DOD AKN MSS 4-PRONGED APPROACH

- ✓ FOCUS GROUP
- ✓ AKN PROTOCOLS
- ✓ DATA
- ✓ MSS QUERY TOOL IN AKN



DOD MISSION-SENSITIVE SPECIES



DOD MISSION-SENSITIVE SPECIES

Pinyon Jay Survey
Protocol for
Landscape
Applications (PIJA
Working Group 2023)



Area Search survey
based on 2.5km grids,
available in AKN

DoD identified need for
road-based point count
protocol for rapid
assessment at larger
scales



Road-based point
count protocol,
available in AKN

**Both field
methods
posted on DoD
AKN Portal**

https://www.dodakn.org/resources/mss/#MSS_PIJA



DOD MISSION-SENSITIVE SPECIES

Standardized Monitoring Strategies for Burrowing Owls on DoD Installations
(Garcia et al 2008)

Guidelines and Recommendations for Burrowing Owl Surveys and Mitigation
(California Burrowing Owl Consortium 1993)

Staff Report on Burrowing Owl Mitigation (California Department of Fish and Game 2012)

Comparison of Detection Probability Associated with Burrowing Owl Survey Methods
(Conway and Simon, 2003)

Focus Group SMEs:

Courtney Conway, *USGS ID Cooperative Fish and Wildlife Research Unit*

Sandra Menzel, *Talon Ecological Research Group*

David H. Johnson, *Global Owl Project*

Kevin Warner, *Idaho Army National Guard*

Colin Leingang, *JBLM Yakima Training Center*

Russ Lawrence, *Hill AFB and Utah Test and Training Range*



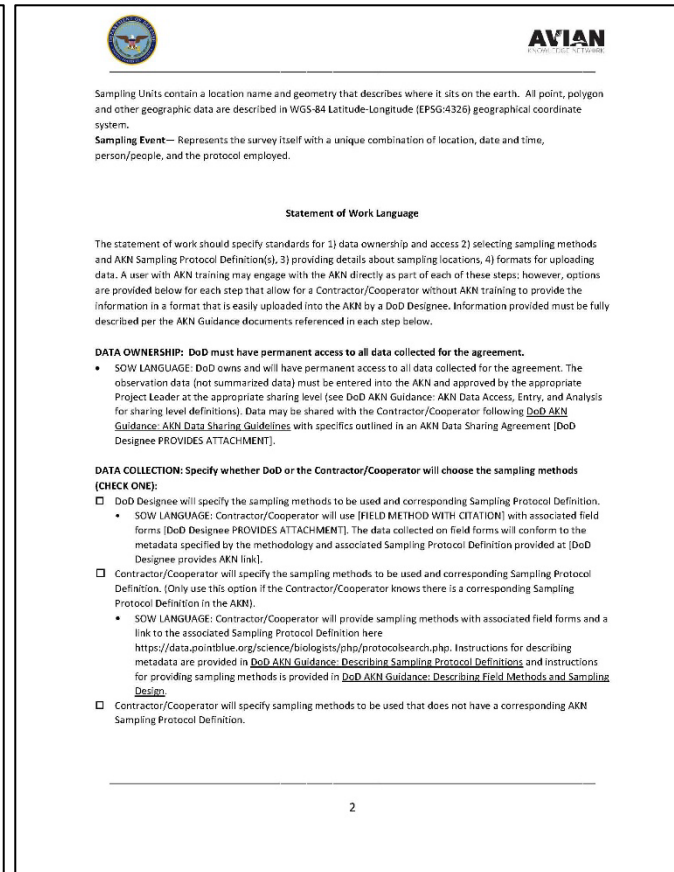
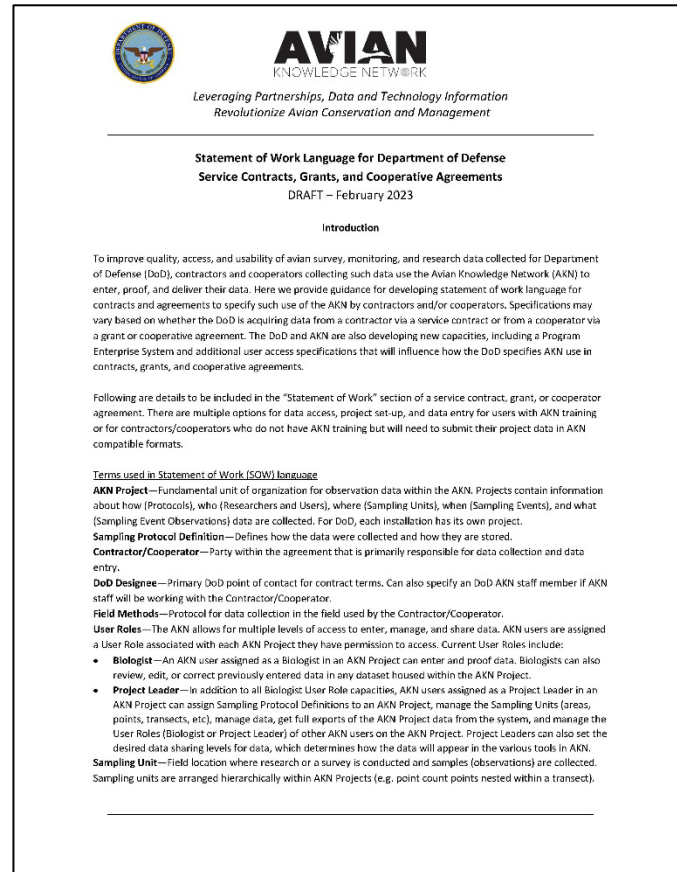
DoD DATA NEEDS

- BASH Data, specifically data collected by USDA-WS
- Banding data, including MAPS
- Nest data
- Spot-mapping
- Sensor and machine-collected data (ARUs, Motus)
- Survey 123 cross-walk directly into AKN
- Foreign OCONUS data



SCOPE OF WORK LANGUAGE

for Contracts, Cooperative Agreements and Interagency Agreements



DoD AKN Guidance:

1. Avian Knowledge Network Data Sharing Guidelines
2. Describing Sampling Protocol Definition for AKN Compatible Projects
3. Sampling Protocol Definition Template
4. Describing Field Methods and Sampling Design
5. Creating AKN Compatible Sampling Units
6. Sampling Unit Bulk Upload Templates
7. AKN Data Access, Entry, and Analysis
8. Preparing Data to Submit for Bulk Uploading for AKN Compatible Projects



DOD AKN USER GUIDE

**Detailed Step-by-step Instructions for DoD Use;
Supplements Training**



**Getting
Started**

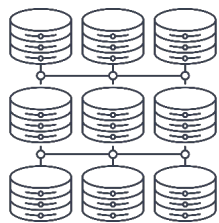
**Managing
Project**

**Getting
Data In**

**Getting
Data Out**

**Exploring
Data**

**DoD
Glossary**



AKN TOOLS

Enterprise Support for Programs

Need: Data curation, management, and analysis at multiple scales (installation, Military Service, and DoD-wide)

Solution: AKN-wide structure allowing multiple Project grouping via Programs.

Plan: Build new technology, to create/manage Programs, especially for query and download of project data

Status: In prototype phase

- I. Beta test of Program download tool
- II. Prototype of Program warehouse

Project Management Portal

Project Downloader

This tool allows you to download your observation data, sampling unit configurations, or both on a per-sampling unit, per-project basis. All projects that you have access to, including any in your program, will be available for selection. Once you click the download button, a zip file containing one CSV per selection will download from your browser.

Project

Select one or more projects or sampling units for data download.

Filter

Department of Defense

☐ Select all projects

▶

☐ ★ ABERDEEN_PROVING_GROUND - (IDOD_ARMY) Aberdeen Proving Ground

▶

☐ ★ ALTUS_AFB - (IDOD_AIRFORCE) Altus AFB

▶

☐ ★ ARNOLD_AFB - (IDOD_AIRFORCE) Arnold AFB

▶

☐ ★ AZ_ARNG - (IDOD_NATGUARD) Arizona Army National Guard

▶

☐ ★ BARKSDALE_AFB - Barksdale Air Force Base

▶

☐ ★ BARRY_GOLDWATER_RANGE_EAST - (IDOD_AIRFORCE) Barry M. Goldwater Range East

▶

☐ ★ BARRY_GOLDWATER_RANGE_WEST - (IDOD_MARINE) Barry M. Goldwater Range West

You must select at least one sampling unit or project

Observation data

If you would like to download observation data, select the type(s) of survey data to be included in the download.

Survey types

NOTE: If the survey data type is not available for any number of projects you've selected, those projects will not be included in the resulting download.

☐ Point count observations

☐ Area search observations

☐ Secretive marshbird observations

☐ Vegetation observations

☐ Site condition observations

☐ Linear transect observations

☐ Soil survey observations

☐ WIFL territory summaries

☐ Banding observations

Date filter

Select a date filter to limit observation data downloaded to those created within the specified range.

Start date

mm/dd/yyyy

Stop date

mm/dd/yyyy

Sampling units

If you would like to download sampling units, select which file type(s) to include in the download.

☐ CSV

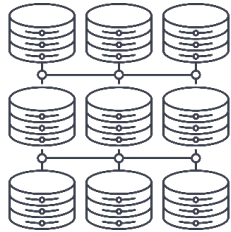
☐ KML

☐ Shapefile

☐ GPSU

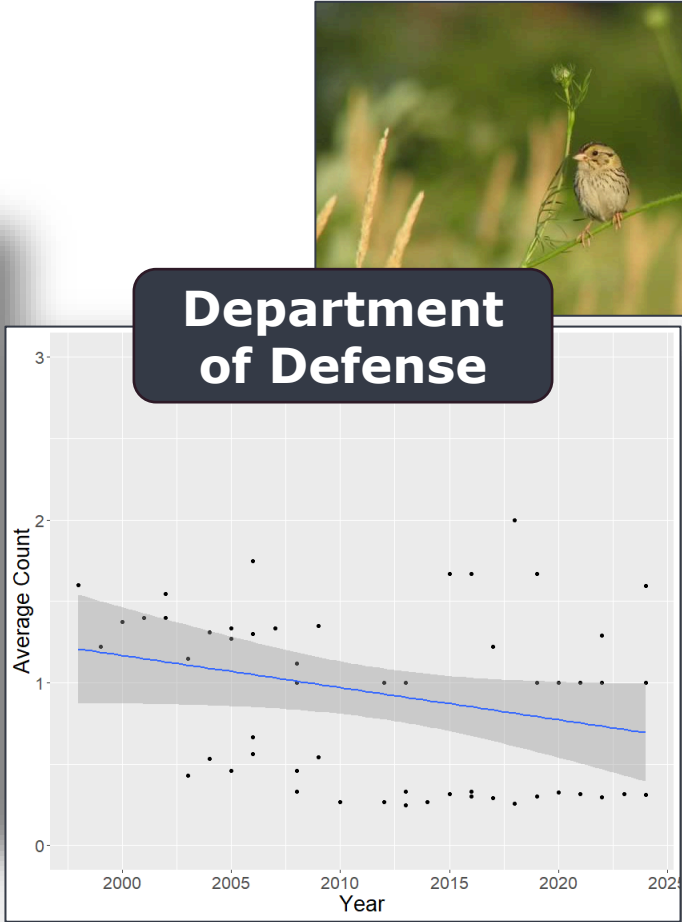
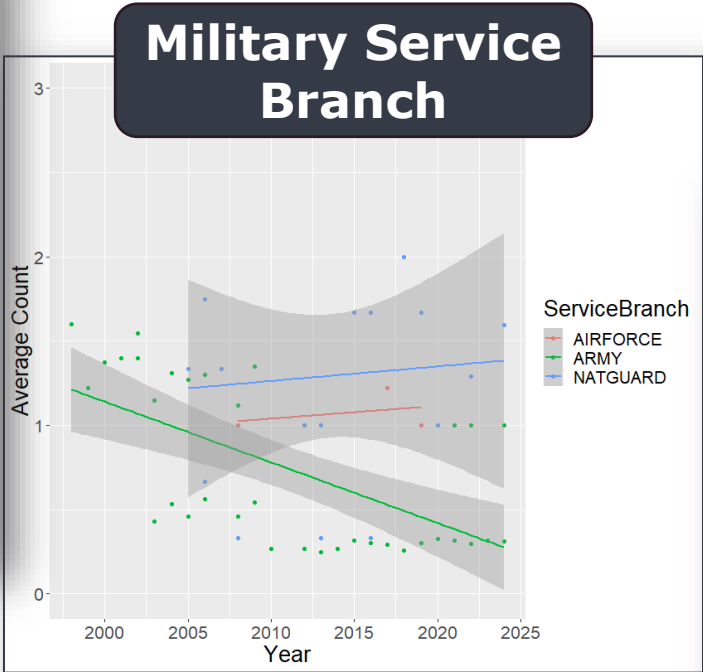
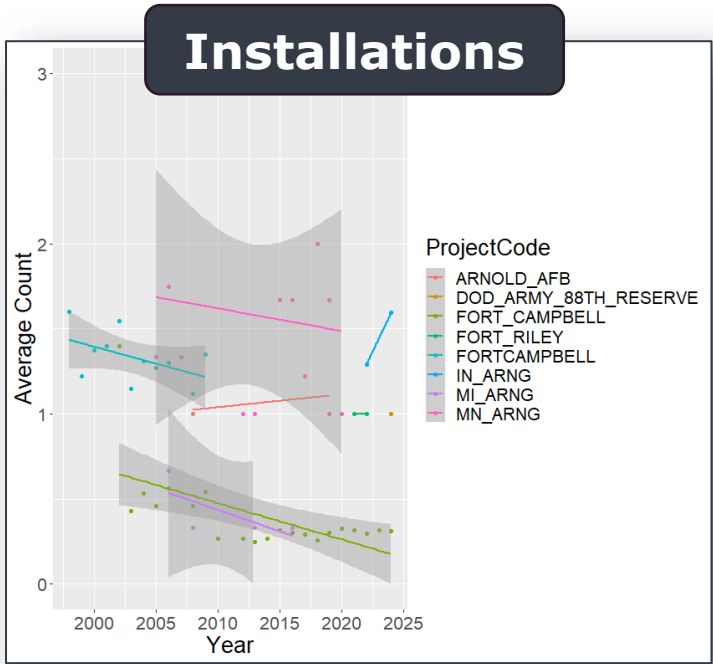
☐ Waypoint

You must select at least one of either the observation data or sampling unit file types



AKN TOOLS

Henslow's Sparrow Trends Across Enterprise Scales





CASE STUDY:

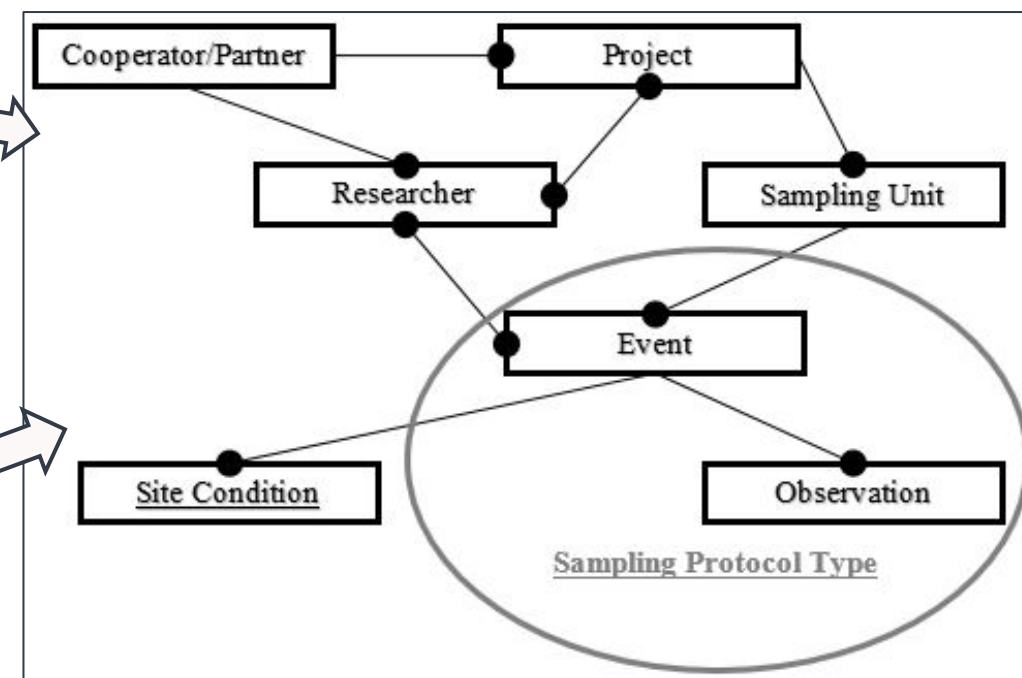
PROGRAM ENTERPRISE – COLONIAL WATERBIRDS

- CWB data collected across **several states and provinces**
- Survey **methods vary** (e.g., some count pairs, some nests), stored in many **different formats**
- **Lack of visibility** on species data and numbers state-wide, range-wide



Great Egret (rookery); Fort Stewart; Photo credit: Paul Block

CASE STUDY:

[illegible]

Sampling Protocol Definition(s)

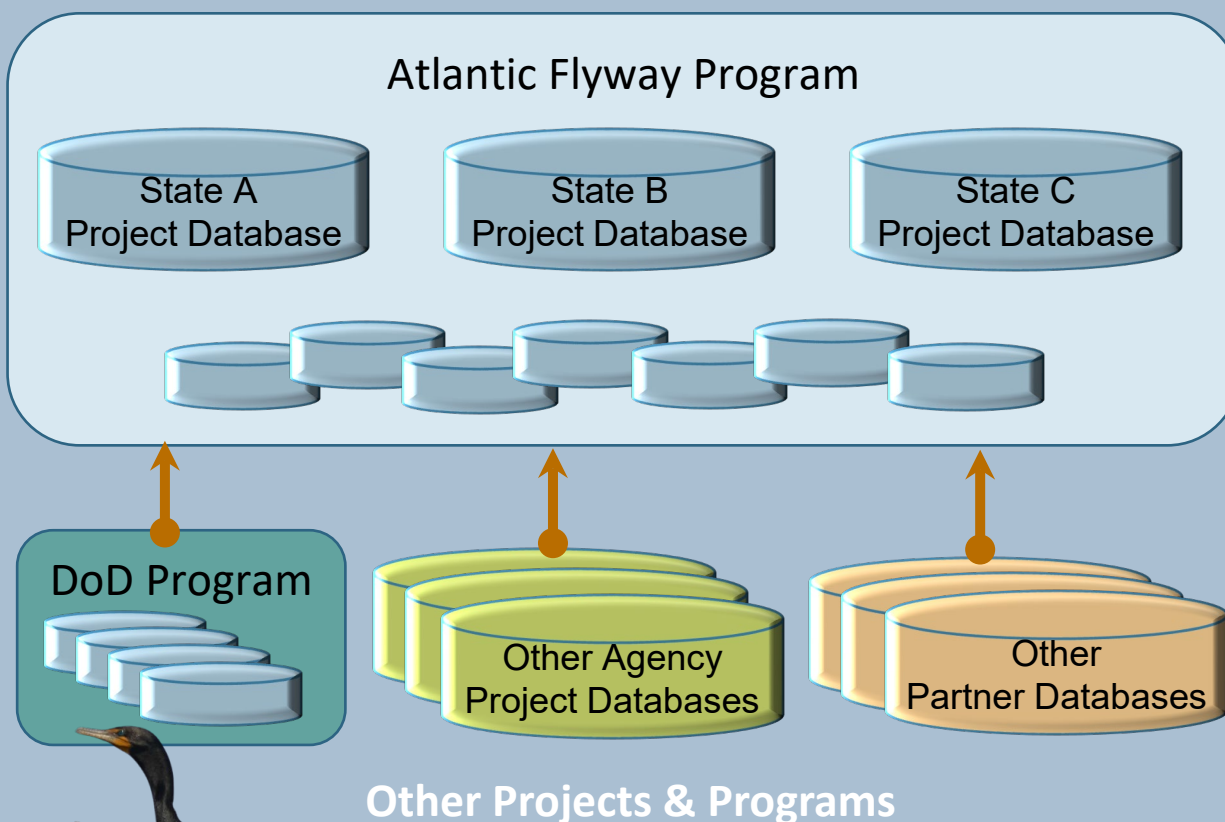


CWB ATLANTIC FLYWAY

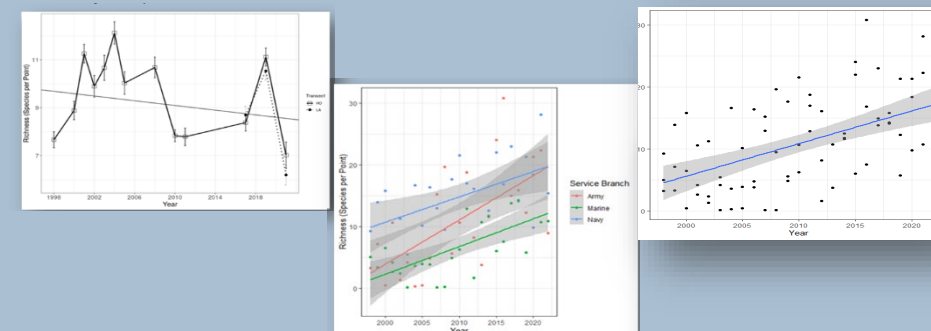


CWB ATLANTIC FLYWAY CONDITION

Colonial Waterbird Program Structure



**Program-based multi-scaled
data access, analysis, download & outputs**



Flexibility with data analysis

**Sharing controlled at the Project database (or
observation) level, can choose to share or not**

**Scaled conservation actions targeted
where most needed**



DoD Program Structure



**Air Force
Subprogram**



Installation Project
Databases

**Army
Subprogram**



Installation Project
Databases

**Navy
Subprogram**



Installation Project
Databases

**Marine
Subprogram**



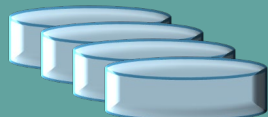
Installation Project
Databases

**National Guard
Subprogram**



Installation Project
Databases

DoD Program



Other Agency
Project Databases

Other
Partner Databases

Other Projects & Programs

Flexibility with data analysis

Sharing controlled at the Project database (or
observation) level, can choose to share or not

Scaled conservation actions targeted
where most needed

AKN TOOLS

More Flexible User Roles

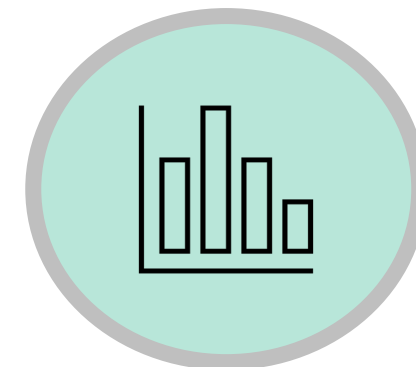
Need: Roles in the system that meet requirements for data entry and/or analysis for portions of AKN projects

Solution: Creation of two new user roles that meet identified needs

Plan: Create two new roles

- I. **Contractor Role** - support a contractor requiring access (data entry, data download, data analysis) to a portion of Project
- II. **Analyst Role** - allow full access to a Project or Program for data download and analysis, w/o ability to manage metadata or user access.

Status: Needs and roles identified, Will begin upon completion of the Enterprise Support for Programs





Driving Avian Data Questions

1. What species have confirmed occurrence on my installation?
2. What species have the potential to occur on my installation?
3. What species may occur/persist on my installation in the future?
4. How are species “doing” (population metrics) on my installation? (AKA "Is my INRMP effective?")
How are species doing across the military? (AKA "Is the DoD conservation program effective?")
5. What is driving population trends on my installation? Are there conservation measures/actions within my INRMP that are working more than others to reach identified conservation objectives?
6. What is the relative conservation responsibility of avian species on military installations?

FY25 PRIORITY TASKS

Base Support
Program Coordination
Installation Consulting (Office Hours)
Back-end Technical Support
Customer Data Support
Reporting: Annual, Qtrly & Factsheets
Annual Support Costs (Science Cloud)

Training
Regional Training (4x/year)
Service-specific Trainings
Manager Training Modules
Expanded Methodology Training
Training Videos

AKN Tools (Partner Initiatives)
Enterprise Support for Programs
Creation of Contractor Role
Creation of Analyst Role
New Analyst v3 in Shiny

Data Initiatives
MSS Protocols & Data
Banding Data in Science Cloud
BASH Data in Science Cloud
Machine/sensor-collected Data
Decision-support Tools & Publications

DoD-Specific Tools
Conservation Responsibility
Management Program Update
Standardizing DoD Bird Monitoring
Mission-sensitive Species Tools
Operations Sustainment Tool

Military Services & Installation Support
Historical/Contemporary Data Support
Custom Data Outputs
Direct Data Initiatives
Case Study Development



WHAT UPDATES, INITIATIVES, TOOLS DO YOU WANT TO SEE?





NEXT STEPS FOR YOU



SIGN-UP FOR DoD AKN UPDATES

Welcome to the DoD AKN Portal

Provides a modern avian data management system approach to foster efficient, cost-effective and resilient conservation outcomes in support of the military mission.

Manage data now

DoD AKN User Guide

Does AKN currently support my data type?

Get Training!



Sign Up to Receive DoD AKN Program Updates

Join the DoD AKN Program Contact List

Name *

First

Last

Affiliation (Military Service or Company Name) *

Installation (if applicable)

Email *

Comment or Message

Submit



Bluethroat, Nome, AK, C. VanTassel

<https://www.dodakn.org/resources/join-the-dod-akn-program-contact-list/>

UPDATED AKN WEBSITE



SIGN UP FOR UPDATES | CONTACT

AVIAN

KNOWLEDGE NETWORK

ABOUT | TOOLS | PORTALS | HELP |

Avian Knowledge Network

Leveraging Partnerships, Data and Technology to Revolutionize Avian Conservation and Management

A NATIONAL PARTNERSHIP

Who We Are

The Avian Knowledge Network (AKN) is a partnership currently composed of federal and state agencies and non-governmental organizations who have shared priorities regarding informatics needs for biodiversity conservation and management. The AKN is a powerful and secure cloud computing system that government agencies, NGOs and others are using to enter, manage, analyze and share their avian observation data.

MORE ABOUT AKN

MANAGE & EXPLORE DATA

AKN offers tools for collecting, entering, uploading, managing, accessing and summarizing bird monitoring data.

EXPLORE TOOLS

SIGN UP FOR UPDATES | CONTACT

AVIAN

KNOWLEDGE NETWORK

ABOUT | TOOLS | PORTALS | HELP |

KEEP CONNECTED

AKN Newsletter / Updates

Subscribe to keep informed about updates and new features in the Avian Knowledge Network.

Archive

Coming soon!

Subscribe

* INDICATES REQUIRED FIELD

Email Address *

First Name *

Last Name *

Associated Organization *

SUBSCRIBE

ONGOING SUPPORT

▪ **Monthly Virtual Office Hours**

- Monthly “Office Hours”
- Calendar and signups [here](#)



▪ **Other Opportunities**

- Training videos on AKN YouTube Channel (<https://www.youtube.com/channel/UCi9intC9uTZa9Bo3HgnY1Q/featured>)
- Funded data initiatives from Military Services

<https://www.dodakn.org/get-training/>

Training Course Site

Select the link below to access the Training Course Site which gives you access to the current and archived course agendas and materials including training slides and course exercises.

Current: https://pointblue.github.io/dod_workshop/

Archive: https://pointblue.github.io/dod_workshop/archive.html

Questions, thoughts, suggestions in the future?
Contact our team!

DoDAKN@erdc.dren.mil



PLANNING

• Start with

- Presence/absence
- Occupancy
- Abundance
- Trend

- How do the data inform
Space/habitat
managem



Office Hours: Project Set Up in the AKN

New Project Questionnaire

Name:

Installation:

Email Address:

- 1) Please provide a short summary of the scope of your project. What are the objectives/questions for your project?
- 2) What survey type do you conduct? (e.g., Point Count, Area Search, Line Transect, etc.)
- 3) **Sampling Units:** How are your surveys organized? How do you select your sampling locations? Briefly describe your study design.
 - a. If point counts, are they grouped into transects, or are all points independent?
Y or N
- 4) **Observation Protocol:** Describe your field methods. Do you have a written protocol or data dictionary? Y or N
 - a. Species
 - b. Length of survey
 - c. Time Bins
 - d. Distance—exact or binned?
 - e. Detection cues—do you record this? Y or N
 - If so, what detection cues do you use (e.g., call, song, visual, wing, etc.)?
 - If so, all types or just first detected?

KEYS

Considerations:

- Anticipated
person-hours, etc.)
- Stability
- g, species
- Analysis and
metrics



END-TO-END PROCESS TO REGISTER A NEW USER DEMONSTRATION



(keup)

Red-cockaded Woodpecker, Camp Lejeune; Photo Credit: Kevin Rose

STEP 1: NEW USER REQUESTS AN ACCOUNT

Point Blue New User Registration

New User Registration

First Name *

DoD

Last Name *

TestUser

Email Address *

DoDTest@akn.org

to sign-in and register.

Password *

.....

Re-enter Password *

.....

Your Organization *

Testing

Street Address

123 Test St.

City

Test City

State

Choose

Country

United States of America (USA)

Point Blue New User Registration

Thank you for registering!

We will be sending you an email momentarily asking you to confirm this registration

- Make sure that you can receive email from datasolutions@pointblue.org so that the message isn't blocked as spam.
- You should receive a confirmation email within a few minutes. If not, you should re-register, as your email address may have been typed incorrectly.
- If you do not receive your confirmation email after the second registration attempt, please send an email to support@pointbluehelp.zendesk.com with details of your registration.
- Use the link in that email to confirm your registration. Upon confirmation, an email will be sent to a project leader or system administrator approving your access to the system and any projects you've requested.

STEP 2: VERIFY ACCOUNT



datasolutions@pointblue.org

13-03-2025

Subject: Please confirm your registration with DOD_DEMO

Confirm Your Registration with DOD_DEMO

DOD_DEMO User Name: DoDTest@akn.org

Thank you for registering your account with DOD_DEMO

Before you are able to use your new account, you must click the link below to validate your e-mail address and complete your registration:

https://data.pointblue.org/apps/public/deju.php?p=NewuserConfirm&tt=__tmpr65f1ee1b28d6d&hs=YjQ0WnowTmNMVGZ3adc&deju_nextPage=nu-confirm

If you have any problems or questions, please contact us at support@pointblue.org

Point Blue Science Cloud

Email confirmation

Please use the button below to complete your email confirmation.

Confirm my email

Point Blue Science Cloud

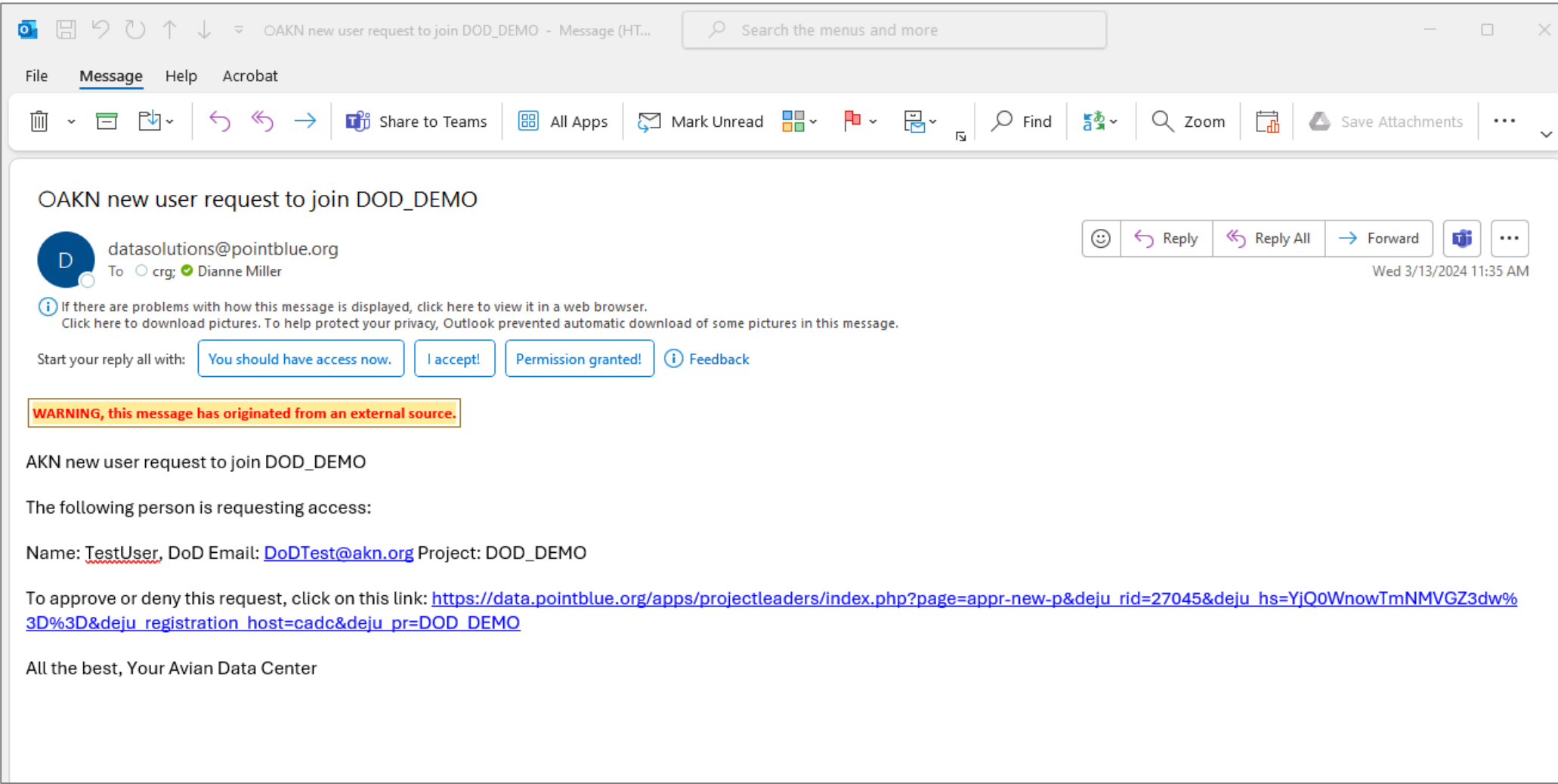
Email successfully confirmed

Thank you for successfully confirming your email address.

An email was sent to the project leader(s) of your requested project for approval.

Once your project access has been approved you will receive an email with information about how to log into the system.

STEP 3: PROJECT LEADER APPROVAL



STEP 3: PROJECT LEADER APPROVAL

THIS IS WHERE YOU COME IN

**Project Leader**

Home

Sampling Units

Field Observations

Project Definition

Approve New User Request

Project:

DOD_DEMO

Requestor:

TestUser, DoD

Email: **DoDTest@akn.org**

Which Approval should you choose? ?

Approve as Biologist

Approve as Project Leader

Deny Access

BIOLOGISTS VIEW

Welcome to AKN Biologists

AKN Biologists is an application for entering and reviewing field observations in support of the Avian Knowledge Network, hosted by [Point Blue Data Solutions](#)



Projects

What project do you want to work in?

 [Quick Tips >>](#)

DOD_DEMO - DoD Demonstration Project



Project Observation Types

For project: DOD_DEMO

What type of observations would you like to work on?

 [Quick Tips >>](#)

- [Area Search Surveys](#)
- [Point Count Surveys](#)
- [Site Conditions](#)

[Feedback](#) | [User: dodtest@akn.org](#) | [Logout](#)

Powered by [Point Blue Data Solutions](#)

INACTIVE ACCOUNT

Biologists 

Project: DOD_DEMO

Error: PRBODB.InvalidProjectAccessRights (403 error) 

Welcome to AKN Biologists

AKN Biologists is an application for entering and reviewing field observations in support of the Avian Knowledge Network, hosted by [Point Blue Data Solutions](#)

 Projects

What project do you want to work in?

 [Quick Tips >>](#)

Loading available project operations...



[Feedback](#) | [User: dodtest@akn.org](#) | [Logout](#)

Powered by [Point Blue Data Solutions](#)



OPEN FORUM





PLUSES AND DELTAS

WORKSHOP WRAP-UP





AVIAN
KNOWLEDGE NETWORK

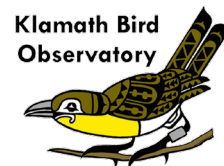
DoD AND THE AKN: WHO, WHAT, WHERE, WHEN, WHY, AND HOW

DoD AKN Virtual Training (NMFWA Makeup)
20 and 22 May 2025
Virtual

Sam Veloz
Dianne Miller

Elizabeth Neipert
Zoe Duran

John Alexander
Caitlyn Gillespie



DoD AKN Training – 20 & 22 May 2025, Virtual (2025 NMFWA Makeup)

Reach out anytime:
DoDAKN@erdc.dren.mil



Hooded Warbler, South Texas; Photo: Paul Block



THANK YOU!!

